

NEW WORLDS SCIENCE FICTION

No. 106

VOLUME 36

2/6

JOHN RACKHAM

Blink

PHILIP E. HIGH

The Jackson Killer

ALAN BARCLAY

Haircrack

JOHN ASHCROFT

This Wonderful
Birthday

J. G. BALLARD

Deep End

★

A Nova Publication

★

15th Year
of Publication



NEW WORLDS

PROFILES

**John
Ashcroft
Halsall,
Lancashire**



"Rural peace (my urban friends call it "backwards desolation") perhaps led to my adopting reading as a major hobby," states John Ashcroft. "From the age of ten I developed an appetite for offtrack stories—whether of spooks, spears or space—and finally the gulf between juvenile comics and adult s-f was bridged by the late John Russell Fearn; as "Vargo Statten" he introduced me to most major s-f concepts (and we need a successor to continue this recruiting activity).

"Extensive reading of s-f magazines and books stimulated both my interest in astronomy and astronautics and my lifelong desire to write. Optimistically when aged sixteen I submitted a story to John Carnell, who accepted it, encouraging me to plug on regardless of rejections. In between studying, being vice-Chairman of Southport Interplanetary Society throughout its brief existence, and attending s-f conventions at Manchester and Kettering, I sold occasional stories, and am now returning to this hobby after a lapse of three years during Royal Air Force service. Lacking specialised scientific knowledge I emphasise the human angle and strive meanwhile to avoid technical implausibility.

"The most remarkable aspect of modern s-f is surely its inherent conscience and healthy lack of smug illusion concerning the significance of our race and planet—I find this stimulating and refreshing, rather than depressing. Transplanted cowboy stories still appear; but there's an encouraging amount of work portraying humanity in wider perspective, observing us with anger, pride, humour or compassion against an immense temporal or spatial background—yet never forgetting the feelings of the humans or aliens involved. And a clash of philosophies is far more fascinating than a fist-fight.

"Apart from reading, sketching, tape recording, enjoying New Orleans Jazz and Afro-American folk music, I hope to go on producing occasional stories keeping on the narrow path between the blaster and the soapbox. If I can enjoy myself, entertain people and be paid for it into the bargain, I'll be quite happy."

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Editor : JOHN CARNELL

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TWO SHILLINGS AND SIXPENCE

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Guest Editorial . . .

A stone was recently cast into the unplumbed depths of science fiction and the inevitable ripples thus created will be circling out for a long time to come, stirring up the murky medium and effecting everyone from author to reader.

The splash was the natural result of the British Science Fiction Association's annual convention, held over this Easter weekend in Gloucester, which brought together s-f reader and author in combination with a catalyst called Kingsley Amis. Mr. Amis, whose new book *New Maps Of Hell* is a very well-received critical survey of s-f, was determined to plop the biggest stone possible into that rather placid and complacent gathering. And he did.

Reporting Guest-of-Honour Amis' "provocative address" for the *Manchester Guardian*, G. D. Doherty said, "In a talk entitled 'Anti-Science, Anti-Fiction' Mr. Amis proceeded to demolish some of the favourite conventions (mumbo-jumbo some would call them) of the s-f fans. Time travel, interstellar space travel, psionics, extra-sensory perception, and the universal translation machine all came under fire as being not merely fantasy but philosophic nonsense and fundamentally trivial."

After the first breathtaking shock of Mr. Amis' unsympathetic assertions, the reaction from fan and author alike was swift, hot and intense. As Editor Carnell later remarked, "he had virtually slashed the plot bases of modern science fiction in half and delegates took exception to this." The response from the floor, in a give-and-take period after the talk, was lively. E. C. Tubb, author and ex-editor, used ridicule to emphasize what he believed was the extremist positions which Amis had taken, while others, such as Kenneth Bulmer, attempted to extract the positive values from what seemed to them too much of a negative approach. All agreed, however, that within the intimacy of their circle, the criticism was desirable and worthy.

This attempt at dispelling some of the mists which have enveloped science fiction over the years and the obviously serious consideration now for weed-picking is symptomatic of the changes in s-f since "the old days." Mr. Amis is expressly concerned with Mankind's philosophic values—Why and How

. . . David A. Kyle

Man thinks and all the strange behaviouristic results. His hero among the modern s-f writers is Frederik Pohl whose "mode is typically the satirical utopia . . ." Mr. Amis is careful to say that he does not limit s-f and thus "undervalue its concern with the future," but the fact is that he is primarily concerned with it as "a world in which speculation about the future is satire about the present in disguise."

Mr. Amis believes in the future of s-f as an extraordinarily powerful medium of expression. He also believes, however, that it must raise its literary quality and develop its moralising concern for humanity.

Historically it took s-f a long time to become 'accepted' by the general public. For decades that was the goal of all fans and their clubs. Nowadays a new goal is needed for s-f fandom to have any significance and surely it ought to be the differentiation between 'good' and 'bad' s-f and the constant effort to raise s-f standards. But quality or not, s-f is a fiction of new frontiers. Though often 'bad' entertainment, it is just as often 'good' intentioned. We must measure its quality by more than just the usual literary yardstick because s-f is frequently genuinely 'unique.'

If too often nowadays science is really ahead of fiction, it is not necessarily because the medium has failed. It is because the authors have failed. What we need is not a limitation on the authors' imagination, as Mr. Amis suggests, but a greater demand on it. S-f *has*, for all the wailings to the contrary, passed to a large degree into the hands of the literary men. The danger is that it may lose its intrinsic value and uniqueness; its interdependency with *all* science.

Science fiction has *two* objectives: It must strive to be good literature and it must strive to express Man's most imaginative creativity. Many times one must overshadow the other. Sometimes one exists *without* the other. But *ideas* must always come *first*.

David A. Kyle.

(*New Yorker* David Kyle, now on his fourth visit to Europe, has been a science fiction writer, editor, publisher, book designer and artist).

Most writers improve their work the hard way—by trial and error—gaining experience with every success. John Rackham's long novelette this month shows the vast strides he has made since his first short stories appeared in Science Fantasy several years ago.

BLINK

by JOHN RACKHAM

o n e

It is not a good thing for a young man to hate the sight of his boss. Stephen Cameron had enough philosophy to know that much. Yet he hated the sight and sound of McInnes, just the same. It was a hatred that went beyond just the personal relationship, and served as a channel for the accumulated dislike Stephen felt for his whole day and age. If McInnes was aware of these feelings, he gave no sign, nor did Stephen expect any. One was not supposed to have excessive feelings, of any kind, much less betray them outwardly.

As the day-news editor of the *Globe Courier*, McInnes sat behind his desk murmuring into visor-phones which glowed but never jangled, dealing out fear and favour alike with a studied and inflexible politeness. Stephen glowered at him, at his shiny bald dome, at the miserable remnants of once-ginger hair which bushed about each ear, and tried to think of an appropriately descriptive title. It would have to be something combining the qualities of 'high-priest' and 'octopus,' and there just wasn't any such word. The real

evil of it all was that this foul blot, this unnameable excrescence, this slug, was a Scot! Cameron blood, matured-in-the-vein for more than a thousand years, seethed at the thought. Then McInnes, free for a moment, looked up.

"Ah. Mr. Cameron. Now then, you'll be pleased to know that we have located the girl, established her identity beyond doubt. Yes, indeed. You will, therefore, proceed at once to visit her, and return with a story." All this he said in a quiet monotone, as one might pass the time of day.

"You mean you *still* insist on sending me to hound that girl?" Stephen realised, belatedly, that his indignant voice was echoing round the hushed newsroom, and caught at it. "You insist on crucifying her, just to get a story?" he muttered. McInnes nodded, calmly, ignoring the loud-voiced gaffe.

"Naturally. That is what we pay you for, I believe?"

"But you know how I feel about this whole business. I've told you enough times. You know that I refuse to regard Sir Arthur Dawson as a traitor, and that I'm damned if I'll be a party to persecuting a girl I don't know nor have ever met, whose only crime seems to be a perfectly understandable desire to live in peace and quiet!" McInnes, his glass-green eyes glinting from folds in his fat and fleshy face, was unmoved.

"Damned it is, Mr. Cameron," he said, carefully. "I care nothing for your feelings, any more than you care for those your shouting is upsetting. News does not just happen. If it did, we should not require your services. It has to be found, and formed. The Dawson story has been in eclipse for a month, now. High time it was given a face-lift and an airing. As our feature science-writer, you will proceed to . . ." he paused to glance at a slip of card on his desk, ". . . to Coventry, to this address. You will find there Miss Petra Dawson, presently calling herself Paula Dean. You will interview her. You will get the material for a story. You will return here with it."

"Suppose I don't," Stephen put in, icily. "Suppose I tell you that I won't touch your blasted assignment?"

McInnes sighed, very gently. "It's sinful of me, and I'm ashamed of it, but there are times, Mr. Cameron, when I have a nostalgia for the old days. When I would have been pleased to come out from behind this desk, to take you by the scruff of your neck and throw you out of here for having the cheek to talk to me like that."

"Why don't you try it?" Stephen offered, softly, making no attempt to hide his eagerness. He came up on to his toes, reading his seventy-five inch tall, two-hundred pounds solid frame, hopefully. "Why not try it . . .?"

For a brief moment, cold fire gleamed in McInnes' glassy eyes, then he smiled, coldly.

"I'll tell you why not, Mr. Cameron. You'll do as I say, or I will black-list you with every reputable news-organ on this planet. I can do it in less than ten minutes, without moving from this seat. Well?"

Stephen took a deep and wrathful breath. For one boiling moment, he came within a hair of telling him to do it, and be damned. Then a cynical inner voice spoke up, telling him not to be a blasted fool, for the sake of someone who was nothing more than a name to him. For once, he heeded that 'voice.' Rocking back on to the flat of his feet, he swallowed his pride, choked his voice down to a grunt.

"I'll go," he said, "and I'll find out what there is to be found. But if there's no story there, then you won't get one, not from me. I'll not be a . . ." Then he realised he had lost McInnes, already. The news-editor was busy with the next job, calmly confident that he had made his point. Stephen glowered at him, then, realising it was so much wasted spleen, he turned and stalked out.

Ten minutes later, gunning his little flier up to the 200ft. level, he preset the auto-pilot for Coventry, and in the half-minute delay while the gyros set up a computation alignment, he stared down at the London he could see from the air above the *Globe-Courier* office building. Neat and sedately orderly, in geometric patterns, the chaste filigree of foam-crete and plastichrome stretched away on all sides. In its way, it was beautiful. But, as Stephen saw it, the lightness of line and the free flow of design had a subdued, quiet, spiritless look, and he loathed it with a silent yet savage intensity. It was the only London he had ever known. It might have served as a carbon copy for every other major city on Earth, given a negligible change in size, or colour-harmony.

"All sweet and sickly," he muttered, irritably. "No blood in it. No guts . . . no fight in any of it." The autopilot clucked its readiness, and he let it take charge. The muted drone of the motor changed very slightly as the flier purred away, building up to a sedate seventy miles per hour, which

was the maximum speed permitted a private aircraft. Stephen fretted in his seat until he judged that the garden-park belt of the suburbs was safely behind, then, by operating controls which he himself had modified for the purpose, he had the pleasure, the stolen joy, of seeing the speedometer swing up and over to two hundred. He felt better, at once. By way of a supreme nose-thumb for a culture he despised, he gave a loud and repeated toot on a hooter he had made with his own hands, and much sweat, from a long-out-of-date design.

It gave him a wry pleasure to think that the mere existence of that hooter, never mind the use of it, would earn him a fine, and a license endorsement, should a traffic-warden discover it. He tooted it again, vigorously.

Green and gold, the countryside slid by beneath him, quiet in the mid-morning sunlight. He gloomed down at it, at the whole emptiness of life as it stood revealed to him at that moment. The old days, McInnes had said. Stephen knew of them only by hearsay, and difficult-to-get books. For twenty-five years now, the whole of Stephen's lifetime, the three-world system of Earth-Mars-Venus had sunk and settled into a negative, passive-guilt, anti-violence doze. He could date it precisely, for he had been a squalling nine-months-old baby when the Solarian-Arcturus war had come to its sudden and cataclysmic end. It had been a long, a bitter, a futile war. Then, by a chance fusion of inspired guesswork and stern effort, the major part of the Arcturian space-fleet had been annihilated. Solar command, generous in victory, had offered a truce, but the Arcturians had chosen suicide. Throwing away their ships and striking power with insane abandon, they had plunged into the three-world system. Every major city on each of the three planets had been hit, flattened, fried into radioactive glaze by the suicidal bombardment. And the Solar forces had hit back, madly, viciously, vengefully. The five-world system of Arcturus had been hit, smashed, blasted into utter oblivion.

While it had lasted, it had been sheer, naked, bestial savagery. But that kind of fire cannot sustain itself long, and when it fades, the scars are deep. The reaction had been swift, and dreadful. For far too many centuries, humanity had wallowed from one war into another, had fed on violence, on destruction and savagery, thinly disguised. Over many generations, the bitter reproaches of wise men, philosophers

saints and saviours had been ignored. For five nerve-cracking generations, Mankind had shivered on the horrid brink of utter self-destruction. Now the blood-guilt was heavy on the hands of every individual of the three worlds. The time had come, and was long overdue, for the pendulum to swing back.

By the time Stephen was five years old the pattern had begun to stabilise. Out of the East, with its age-old tradition of passivity, backed by the authority of having been the first to suffer atomic destruction, came a succession of social reform waves, fads of all sizes, cults with many names, but all with one common theme. Peace on Earth, goodwill between man and man. An end to all violence, to force, to extremes of any kind. The passivity, and quietism—Stephen thought of it as a pernicious blight—had spread and thrived. It had leaped the gap from Earth to Mars, to Venus. With one accord, Solarian man, in a lowered voice, and bitterly regretting his bloody past, had said, 'Let us be reasonable!' In ten years the feeling had become system-wide. In twenty, it had settled into taken-for-granted habit.

"Treason to nature," Stephen fumed, reviewing it in the light of his science teaching, and his history studies.

"Rubbish!" said his 'voice,' confidently. "What about the incidence of psychosis, neurosis and the rest of the mental ills?" And it was true. The statistics for all forms of mental derangement had fallen to negligible proportions.

"So what?" he argued. "That's just because no-one objects, any more, to anyone acting daft, so long as they're quiet about it. People are just as insane as ever they were." The voice of conscience was undaunted. Clearly, over the thrum of the engine, it came again.

"All right, what about crime, then?" This time, Stephen had no ready answer. Statistics for crime had fallen equally with insanity. The major part of all crime, as the psychologists had known for years, stems from two causes, or the two faces of the same cause; violence offered, and violence resisted. Under the adrenalin stimulus of fear, physical stress, and flight, those things are done which are regretted in colder blood. The thug is rare who can proceed with his thuggery in cold, calm deliberation against a sheep-like, unresisting victim. It shatters the morale of the venturesome burglar to be caught in the act, regarded with pity and invited to take more. Crime, without the zest of risk and violence, fell away into disuse.

He saw the glint of distant sun on the towers and spires of Coventry, and bore down on the throttle of his motor, reducing his speed to the decent limits. Nothing violent, he told himself, wryly ; not work, or speech, nor noise, nor speed. Even the devastated cities had been reclaimed and rebuilt in a hush of new methods and gentle decorum. Delicately bred bacterial strains had been loosed on the radioactive ruins, to thrive and multiply in their silent myriads, to isolate and convert the deadly isotopes from fused masses into dust that washed out with the rain. Then other micro-organisms, cunningly tailored, had been induced to thrive like so many coral polyps, wreathing themselves in miniscule concrete shells. With care and guidance, they grew themselves, obligingly, into arches, pylons, foundations, buttresses and spires. Quietly patient craftsmen worked them, trimmed them, used spray, adhesive, quick-set foam, ruggedly tough metal-plastic hybrids—and the new cities grew in quiet, placid beauty, and they stayed quietly, placidly beautiful. Stephen curled his lip at the thought.

By a strange irony, the one remaining permissible violence was one he was singularly unqualified to employ. In the half-world of communications distorted to make ' news,' the art of slicing an opponent to ribbons by exquisite irony, the damning with faint praise, the left-handed compliment, had become an imperative. But Stephen Cameron, his simple soul devoted to solid fact, and his impulsive nature given to sudden, often unwise, enthusiasms, was incapable of such refinements. He despised them. He told himself, as he had done a thousand times before, that he was never meant to be a newsman, anyway

The city boundaries were slipping under him, now, and he got out the slip bearing the address, to feed the co-ordinates into the auto-pilot. The flier began to veer and drop as the scanner selected a district, a block, a street. Looking down, he might as well have been looking at the London he had left. The pastel colours were slightly different, the river not so big, or so twisted, but for the rest, it was the same. Manchester, Newcastle or Toronto, Tokio or New York, for that matter.

" All smothered in whipped cream, and dead," he muttered.

" Rubbish !" his ' voice ' retorted, cheerfully, " all peaceful, quiet and sane." The flier dropped, and bounced gently to a stop on the grassy plot at the end of a street. Stephen sighed. Peaceful ? Quiet ? Sane ?

"What about the Beetles?" he demanded, under his breath. His 'voice' gave him no argument, this time. There was no room for argument about the Beetles, he thought, as he climbed out, and gathered his cloak about him. No-one knew very much about them, at all, except the one sure thing, that they represented a threat, a silent, mysterious menace to Earth. And Earth's reaction was to avoid any mention of such a distressing subject. Stephen tore his mind from the disgusting prospect, thought about Paula Dean. Paula Dean, who was really Petra Dawson, daughter of Earth's Traitor Number One. He wondered what she would be like, half-hoping he would find a thin-faced, acid-tongued slip-wit, so that he wouldn't have to feel guilty for what he was going to do to her. Or, more accurately, what McInnes wanted him to do to her. Whether he was going to do it or not was a different thing.

As she opened the door to him, he took one keen glance, and knew that it was, indeed, going to be a very different thing. She stood, quite small, quite still, smooth-faced and calm, looking up at him, her grey eyes half-hidden behind dark-framed spectacles, her darkly glossy hair loose and brushing her shoulders.

"You are Paula Dean, schoolteacher, nineteen years old, single. You teach primary school philosophy . . ." he reeled it off, reading from the card, keeping his voice as impersonal as possible. She admitted it all with a single, grave nod, and stood aside to admit him into her small one-person dwelling unit. He strode in, feeling like a steam-hammer crushing a butterfly.

The swing to passive humility had taken its greatest effect, on women. By their biological heritage they had been condemned to play a subjective role from the very beginning of evolution, so the reversal to abject servility was nothing new. What had given the trend a savage impetus, however, was the still fresh memory of that brief period of completely artificial dominance women had enjoyed in the closing decades of the 20th century. It had been brittle, shrill, and in the final stages, utterly ridiculous, a runaway hysteria. The stark blast of destruction had shattered it, stripped it bare, and Woman, as a sex, had fled into a depth of abnegation far beyond that of the ancient Orientals.

She allowed him to select a seat, waited until he was comfortable, then, "In what way may I have the privilege of serving you, Mr. Cameron?"

Any intentions he had ever had of carrying out the orders of his chief faded away completely at the sound of her voice, at the utter indifference in it, and in her manner. He looked, and changed his simile from 'butterfly' to 'flower.' She was as uninterested as is a flower, content just to grow, not aware nor caring that it is beautiful. And she was beautiful, in that same sense.

"I've found you," he said, impulsively, "and now that I have, I wish that I hadn't." She had moved to a chair, but not to sit until he gave her leave. When he made the gesture, she sat, carefully, rested her arms on the chair-arms, and eyed him, patiently.

"I'm sorry," she said, "but I have no idea what you mean. You say you have found me. You were looking for me? Should I know you, Mr. Cameron?" Her grey eyes were only politely curious. Staring at her, his thoughts dissolved into a blur of indecision, into helplessness. She wore the standard one-piece garment that had become a set fashion for all women. Inspired by the classic simplicity of Ancient Greece, fused with the wrap-around convenience of the Hindu sari, the 'gown' had swept away all the eccentricities and extremes of 'fashion.' A single piece of material, eight feet by four, sheer or heavy, knitted, woven or poured, individualism emerged in the way it was wrapped, folded or draped. She had chosen a blue, to bring lights into her eyes, and sheer enough to show her body, faintly pink, through its folds. In true Grecian style, she had draped it to reveal her left arm, shoulder and breast, and had caught it at her waist with a slim silver cord. He thought he had never seen anyone look so utterly defenceless.

"No!" he said, gruffly. "No. You don't know me, at all." He got up, restlessly, almost angrily, waving her to stay seated when she would have risen. "No. Sit still!" She frowned, very slightly, at his tone. For a moment he had the urge to bow, and depart, and felt a strange certainty that if he didn't, it would be too late, that he would do or say something he'd be sorry for. He hesitated, and was lost to the curiosity that welled up in his mind. Shrugging back his short cloak, he tucked his thumbs into the waist-band of his kilt—one of the very few things he thought sensible, in this insipid age, even if it was of black leather-cloth—and looked down at her, grimly.

"You call yourself Paula Dean," he said. "But I have reason to know that you are, in fact, Petra Dawson." There

was no need to say more. In that one moment, it was as if he had struck her. She cringed, painfully. Then, just as quickly, the reaction was gone, and she sat up. With a smooth, resigned movement, she took off her spectacles. Her eyes were quite steady.

"Yes," she said, softly. "I am Petra Dawson. What do you want from me?" He stood a moment longer, looking down, hating McInnes more with every breath. As she sat there, passively resigned, her whole attitude said 'I have nothing. I want nothing. I am nothing.' He bit his lip, turned, went back to his seat.

t w o

"I'm on the staff of the *Globe-Courier*," Cameron said. "Special science reporter. My chief has decided it's high time the Dawson scandal was given another public airing. I'm here . . ." he growled, ". . . to get a story out of you. I imagine he expects me to probe into your feelings, your thoughts about your father. 'Daughter of Renegade Scientist Tells All.' Something of that kind. Anyway, that's it!" He had spoken roughly, with no attempt to excuse or soften the words.

"You sound bitter, and violent," she said, wonderingly. "Why is that? Why are you sorry, now? You must have known, before you came?"

"I think I did. It's hard to explain, to put into words that someone else would understand. It's me, I think. You see, I'm an odd sort of person. I don't fit into this age," the words boiled up to his tongue in response to her calm look. He'd been itching to say them out loud for too long. "I get enthusiasms, and what they call hunches. Actually, they get *me*, and I chase after them, regardless." She nodded. It was nothing more than a slight, grave inclination of her head.

"I quite understand. Remember, Mr. Cameron, I teach young children how to deal with and overcome these very same defects."

"But they're *not* defects!" he retorted, angrily. "They are perfectly good, honest, normal and right!" She winced, and he caught the quick look of patient understanding on her face, a long-suffering look. He caught himself. "Oh, all right, I said you wouldn't understand. What's the use? Anyway,

take it or leave it, that's the way I am. Incidentally, that is also why I had to give up all my hopes of ever becoming a scientist. I get excited, enthusiastic and away goes all hope of sane judgment." He appealed to her with a look, and her patient understanding faded into a puzzled smile.

"How terrible for you," she said, "but what has this to do with why you're here?"

"Well . . ." he thought a moment. "I've done the next best thing to being a scientist. I've become a science-writer. I've used what training I did have. I have your father to thank for what little I know about biology and bio-chemistry. I knew him, as a teacher. I'm damned if I'll believe that he's what they call him, that he's a traitor to Earth. I just can't see it."

"Thank you," she said, very softly, and he snorted, so that her grey eyes opened wide in astonishment.

"I'd expect *you* to feel that," he explained. "You're his own flesh and blood, after all. But I have no reason for the way I feel, apart from the fact that I took a liking to him, when I was in his class. It's just one of my hunches. No real reason for it. I've run into quite a bit of trouble over it, already, and I've tried to talk myself out of it, to make myself fall in line with the rest. But it's useless. Once I get a conviction, I get it, and there's nothing I can do about it." He said this with intense gloom, and another look to her for her understanding. And he saw that she was laughing. Very gently, with a gleam of white teeth, and an inner quiver that shook her from head to toe. He flushed for a moment, then saw it from her viewpoint, and joined in the laugh. At length, she caught up the hem of her gown and applied it to her eyes, glowing at him.

"Thank you," she said, very softly. "It's a long time since I laughed like that. Three years, at least," and he suppressed a groan at the story behind those few words.

"Anyway," he was deliberately casual, "you can see, now, why I'm sorry to have come here. I've managed to fight back my convictions, so far, but now . . ."

"Now?"

"Well, now . . . having seen and met you, I'm committed right up to the neck. There you sit, helpless, blameless, and very lovely . . ." the last bit slipped out before he could catch it, and he blundered on, hastily. "I can't even begin to pretend that you're guilty of anything, can I?"

"What will you do now?" she was faintly pink. "Aren't you supposed to get a story of some kind?"

"That's all right," he muttered. "This had to come, sooner or later. I'll just go back to Mac and tell him what he can do with his assignment. Then I'll be discharged, and I can start looking for another job." She moved a hand-grip, so that one arm of her chair went down flat, curled her leg up under her and eyed him with worried sympathy.

"All this, just because of me?" she murmured.

"It's not that. You mustn't feel responsible. I'd as good as told Mac that I wouldn't be a party to hounding an innocent girl. It's nothing you could help. I mean, you can't help being you, can you?"

"I suppose not," she nodded, gravely. "But the damage is already done, Mr. Cameron. I shall have to pack my things and move on, in any case." She looked so beaten, so resigned, curled up in the chair, that he felt a genuine pain.

"Surely not," he said, even as his common-sense told him that she was quite right. The minions of McInnes had sniffed her out. However much one Stephen Cameron might protest, there was no undoing that knowledge. He got up, suddenly, so violently that she was startled.

"This is damnable," he snapped. "The whole rotten stupid business—and we sit here, and let it happen!"

"You're so violent," she whispered. "You remind me of my father, at times. He was often violent, about causes. But what can we do? And what does it matter, anyway? One man, or two, myself or you—against the Beetles? What does it matter?"

"What does it matter?" he glowered down at her, "Hell and damnation, isn't that the whole trouble with everybody, that nothing really matters, any more?" He began to pace the confines of her tiny room with angry tread, glaring down at her. "The whole damned planet, a billion people and more, all spineless, gutless and hopeless, and because of what? The Beetles. And what are they? Nobody knows. What do they want? Where do they come from? What resources have they? What weapons?" He fired the questions at her, so angrily that she cringed back and down into the chair, her grey eyes wide.

"Think of it!" he challenged, stopping to stare down at her, "Three years ago they came, out of nowhere, in their silver

spheres. By the time the radio and radar staffs had shaken the dust out of their machines, they had formed up. Three in orbit round Venus, three round Mars, three watching Earth. Exactly two planetary diameters out. Silent. Watching." He recalled it well. He'd been on a bread-and-butter assignment to Hurstmonceau at the time. He'd seen the dull wonder, the sluggish response, the defeatism. And he had seen the spheres.

"And what did we do?" he demanded, so loudly that she shrank down further into her chair. The edge of her gown parted and slid back from her hip, revealing her smoothly naked, rounded rump and thigh, quivering. "Our armed forces . . . token only, and nine-tenths of them on leave . . . they fell over their own feet trying to get our space-fleet out of mothballs. To our everlasting shame, Mars beat us to it. Venus . . . well, for all we shall ever know, they never even woke up. But Mars put up a show. One heavy cruiser, six strikers, and a dozen single-man jobs. And we watched. They got into formation . . . and then they turned tail and went back down again with not a blow struck, not a shot fired. Nothing! And down went the spheres, down on to Mars, and Venus. And that was that. Kaput!" He slashed the air with a gesture, and she shivered. His fingers itched to hit out, to smack that pink and inviting flesh, to jolt some sort of reaction into her. He shut his hand, dropped it to his side.

"And what about us? By this time, the technical men had back tracked the flight-path. We knew that the spheres came from the general direction of Orion's shoulder, from Betelgeuse Not from there, just from that direction. But the name stuck. They are now the Beetles. We shudder. We make a supreme effort. We put up a salvo of war-headed rockets at the spheres which are watching us. And they pick 'em up, control 'em, divert 'em, and dump 'em safely in the Pacific. And we give up!" All his disgust was concentrated into those last words. She peered up at him, timidly, her black hair framing a white face.

"What else was there for us to do?" she whispered. "What else?"

"Hell!" he raged, "Don't you see it, either? We gave up, because they had some way of controlling and diverting our missiles. But they gave up, too, didn't they? They went away. Our three spheres left us, went off to Mars, to Venus. To join

their chums. But did we take a hint? Did we?" She lifted her head, cautiously, just a little.

"What could we have done?" she whispered, and he snorted thumping one fist into the other palm with a whack that made her shudder.

"We ought to have mobilised, girded our loins, got ready for them, that's what. I don't say we should have sent a fleet bashing away to Mars, mind. That would have been crazy. But at least we could have done something to get ourselves ready for them, when they come, as the most surely will. We all know it. We sit and wait, and cower, and pray. Spineless, spiritless, gutless lot! Let me tell you . . ." he wagged an irritated finger at her, ". . . there are a lot more who feel the way I do. I work for a newsorgan. I see the letters which come in . . ." he stopped, feeling rather foolish, and a little ashamed of himself, because he could see, now, that there were tears beginning to gather in her eyes. She blinked them away, quickly.

"You do remind me of Father," she murmured, "when you waggle your finger in that way."

"I'm sorry," he said, gruffly. "I'd forgotten all about him, for the moment. He was on Mars when it fell, wasn't he?" To her silent nod, he resumed his stiff pacing, frustration boiling to the surface again.

If only one could know what had happened, what the Beetles were really like, what it was they had done to smother Mars and Venus so absolutely, so instantly. But information was veritably nil. All radio communication had shut down at once from the two planets. Telescopic observation had shown nothing. For six months, Earth had cowered, except for a handful of valiant spirits who had striven to whip up some spirit of defiance. The massive weight of public disapproval had overwhelmed them. Borrowing a term from a by-gone era, and perverting it, the rebels had been 'Coventrated.' Stephen had some experience of that. For weeks at a time, no-one in the *Globe-Courier* office had wanted, or dared, to be seen talking to him.

Then the repatriates had come, the first batch. Two ships from Mars, one from Venus. Forty-five people in all. All were Earthlings who had been about their legitimate business, and had been caught off-planet. They had been assembled, shipped, and sent home, without violence, harm or force. That,

alone, laid a big, a crippling extra load on the collective burden of guilt everyone carried. The enemy was powerful, mysterious—and non-violent. There was a sense of just and awful retribution about it.

And that was just about all there was to learn about the Beetles. Not one of the repatriates had seen, or could describe, them. The information was scanty, and fragmentary. Mass communications had been shut down. All civic leaders and senior citizens had been summoned to interview by the Beetles. They had returned, 'transfigured' as one refugee reported. Hypnotised, Stephen had guessed. The Soviet third of the globe guessed it was brainwashing, out of their own experience. One year later, another group of repatriates had arrived. Then the Dawson story broke.

Somehow, because Sir Arthur Dawson, respected and vigorously eccentric sociologist, had *not* been repatriated, the story came out, and grew, that he had 'gone over' to the Beetles. Within six months, his name smelled to high Heaven, all over the globe. Stephen frowned. He had never been able to believe that yarn. He believed it even less, now. He stopped to glare down at Petra, as she cowered, kitten-like, in the chair.

"How did it all begin, anyway?" he demanded, and she blinked at him in bafflement. "I mean, how did that damn silly story start, about your father?"

"I had a letter from him," she whispered, and shivered, suddenly. He was intent, in a flash.

"A letter? First I've heard of it, and I'm in the news business. What sort of letter? What did it say?"

"It was carried by one of the second group of repatriates. He delivered it to me. I'm afraid I talked about it, a bit too freely, to some of my friends in the laboratory. I had no reason to doubt their honour." Her voice faltered a moment. "I suppose one of them must have talked . . ."

"What was in the letter?" he demanded, again, and she let her head droop.

"What does it matter?" she muttered. This time the sight of her bare rump was too inviting to be resisted. He swept his flat hand down, smartly. The smack echoed, and was caught and drowned by her sudden, full-throated yell. She twisted, sat half-way up, and he thought he saw a momentary flash of fire in her eyes. Then, rubbing her abused flesh with a trembling hand, she said, "What did you do that for?" Her voice was quite loud, and he grinned.

"Made you come alive, didn't it? Now, you just say that to me once more, 'What does it matter?' and you'll get more of the same, understand? I want to know what was in that letter. Damn it, girl, can't you see I'm not prying? That letter may be the only bit of concrete evidence about the Beetles we have."

"I can't see that it matters," she said, and ducked, raising her arm, as he offered to smack again. "What difference can it make?" she wailed, desperately. He took hold of her arm. It was surprisingly firm.

"Now," he said grimly. "tell me what was in that letter. Tell me. Look, I'm convinced that whatever else he might have been, your father isn't and never has been a traitor. If I can prove it, slap out some positive evidence, then I can kill that silly story, once and for all. Surely you can see that? Surely it is what you want? Now, will you tell me, or do I have to put you over my knee and smack you until you can't sit?" She was quite still. For one moment, he thought she was going to defy him. Then she sighed.

"Very well. I can show you the letter. It can't do any harm." He let go her arm, and she got up, to pad across the floor to a wall-desk. There, after a moment's rummage, she found a single folded sheet, brought it to him. She was very small, he thought, as he looked down at her, and she was under some strong emotion, too, by the way her bosom was agitated.

"You believe in my father," she said, quietly. "Perhaps, after reading this, you'll think differently." Her point hit him quite suddenly. Suppose the letter confirmed the treason story? After all, he was following nothing more than a blind prejudice. He took the letter carefully, almost hesitantly, watching her as she settled into her chair again, tucking her legs under, her slim hand absently rubbing her hip, where the red marks of his fingers were already beginning to show. Then he began to read.

"Dear Petra,

Everything is all right with me. You needn't worry. Even my hobbies are catered for. Best of all, I can carry on research. Lord knows, there is a lot to learn. I find the Beetles fascinating. Not as formidable as we think. Knowledge is precious to them and us. Keep your spirits up, child. Everything will work out. You mustn't think too badly of me. Try to be understanding. Others may judge me harshly. But you must be kind. Everyone

has his differences. Everyone has his own values. That's life. Lots of things are not what they seem. Even the obvious things. Here, I am getting sympathetic co-operation. Everyone most anxious to help. Especially the Beetles. Love from Dad."

Stephen groped for a chair, read the letter through again. It was a facer. Even when you allowed for the vagueness, the short and jerky sentences—it was probably written under emotional stress, anyway—even then, it was damning. It was a flat confession. Hobbies catered for. Carrying on research. Things not what they seem. Don't think badly of me. It was all there. His 'voice' jeered, "Now do you believe?" He sat up, suddenly.

"I don't believe a word of it. Damned if I do. Sure this is his writing?" She nodded, wordlessly, and he snorted. "It's a trick. Written under duress. A forgery. Maybe a code message. Anything. I just don't believe it. Look here, what do *you* think?"

"What does it matter?" she said, and flushed as he raised his open hand. "I'm sorry . . . but . . . well, it doesn't really matter, does it?" She was quite pathetic in her struggle to shake off her habitual thinking. "I believe in my own father of course. I know he wouldn't do anything mean, or dishonourable . . ."

"There you are, then," he jumped up, excitedly. "That's two of us. It's a start anyway."

"I'm sure I don't know what you mean," she sighed. "All I can see is your violence and excitability. It frightens me. And I can't see what you hope to achieve." Her limp resignation appalled him.

"You want to have your father's name cleared, don't you? I mean, so that you, yourself, won't have to go on skulking and hiding like this. Don't you?"

"What does it . . ." she corrected herself, hastily. "Yes. I suppose so. It would be pleasant."

"Pleasant? Ye Gods, is that the best you can do? Isn't it your right and privilege? Isn't that worth fighting for?"

"I suppose so, if you say so."

"I *do* say so," he declared. "Look here, I can't go back to the office unless I have the story they want. And I am not going to cook one up. Which means that, as of this moment, I'm sacked. But if I can go back there with solid evidence that the story about Sir Arthur is utterly false . . . well . . ."

"Yes?"

"Well!" he grinned, ruefully, jabbing his fingers through his hair. "I'll still be sacked, I think. But at least, I'd feel honest about it. Don't you feel that? Don't you feel the urge to do something?"

She was thoughtfully still, only her stroking fingers moved. Then she sat up, put her hands on her knees, looked up at him.

"I'll help you," she said. "I would like to see our name cleared. I can't imagine how you propose to do it, but I feel I must help, in any way I can. I have to leave this place, anyway, so I have little to lose."

It was hardly the vital fighting spirit, he thought, but it was better than rank apathy. It was a start.

"Good for you," he said, eagerly. "That's the stuff!" But she sat quite still, watching him gravely.

"What do we do now?" she asked, and he was caught half-way out of his seat, and with a foolish blank in his mind. It was a good question. He combed his mind, frantically, hoping his confusion didn't show. A word came. Laboratory.

"Colleagues," he mumbled. "Sir Arthur's associates, laboratory staff, what about them?"

"I doubt if there are any left," she said, sadly. "They all fell away, you know, when the story got round. Except Doctor Simnell, of course. He's something of a rebel, just as Father was. He was still there, the last I heard. And maybe one or two more."

"That's something, anyway," he said. "A place to start. What is it called, again? The Humaneering Institute?"

"That's right. The Humaneering Insitute, Aberystwyth."

"I've heard of it. Wales, somewhere. My flier will know. All right . . ."

"Doctor Simnell sent me away, you know," she warned, gently. "For my own safety. The local people were Coventrating the place."

"So you came to Coventry," he said, wryly. "Was that deliberate irony?"

"I never thought of it," she confessed, suddenly intrigued by the thought, "how very odd!"

"Never mind. We're going back there, right away. My flier is at the end of the street. How long will it take you to pack?"

"Not very long." She got up, obediently, and went, silent and barefooted, to the wall-cabinet. Out came a capacious plastic hold-all. Opening it, she gathered up a Bhudda, a reader and a box of micro-spools, stowed them away. Then she paused, looked at him.

"It's an open flier, I suppose. A small one?"

"That's right. Fast, too."

"I was thinking of the mountains," she said. "I'd better change into something warmer." As she untied her silver sash-cord and stepped out of the sheer blue, he revised his first estimate of her. Passive and subservient she might be, but there was nothing wrong with her brain. He hadn't given a thought to the chill over the Welsh mountains. As it happened, he always carried a heavy, real-fur cloak for just such an event, so the question didn't arise. But she had thought of it. She stood, folding the blue, to drop it into its pocket. Pinkly nude, she put a finger to her lip as she decided what to wear.

He could see his violent hand-print quite plainly, now, and regretted it. She was quite pretty, he thought. An undersized Venus. The kind of girl he'd have liked to know better, had the circumstances been different. Practical, too. Perhaps, if and when this was all over, he might try to strike a deeper acquaintance with her. Have to mend his ways, though. Cut out the rough stuff. She picked out a heavy gown, dark charcoal-grey, in fleecy orlon, hung the corner loop of it on her dressing-hook, and stepped back to extend its full eight-foot length. Tucking one edge under her arm, she wound herself into it, unhooked the end, slid it over her shoulder, passed a black cord through the loop, knotted the cord about her waist. It was all done in seconds.

"I can't see what you hope to get by going to Aberystwyth," she said, pressing her foot into a soft, leathertex half-boot. "Doctor Simnell doesn't know any more than we do. What can he do for us?"

"Don't be so defeatist," he snapped. "We'll think of something . . ." and he let the words hang as he was interrupted by an amber light and a gentle chime. There was someone at the door. "You expecting somebody?"

"No. This is my free afternoon. I'll see who it is." She went, and he followed, suspiciously.

t h r e e

It was a civil warden, austere in grey kilt and cloak, keeper of the community peace.

"I am sorry to trouble you, Miss," he said, "and you, Sir," catching sight of Stephen over her shoulder. "But there has been a complaint, from your neighbours. A scream, or loud shout, together with raised voices. A disturbance, From this dwelling-unit."

"We are just leaving, Warden," Stephen said, roughly. "There'll be no more trouble from us."

"I'm sorry, sir, but that won't do. I shall have to take a note of your names and issue a cautionary notice." He was very gracious, but Stephen saw his hand go to the miniature recorder which was strapped to his cloak, and heard the click as he switched on. The damage was done. Faces on a visio-tape reel . . . in a file . . . in a crime-list. Black marked for disturbing the peace. Only a minor thing, but eagle eyes, scanning that tape, would recognise her face, and his. It would get back to the *Globe-Courier*. For certain. All this in the time of one breath. Then Stephen made a snatch at the recorder, and the warden took his arm in a swift and agonising judo-lock.

"You are forcing me to hurt you, Sir," he said, reproachfully. "There's no need for that, now, is there?" Trained or not he had been shepherding passive citizenry too long. He was quite unprepared for the really frantic right hand that Stephen flung at his jaw. As the ham-sized fist connected, he sagged, limply, and Stephen hauled him inside.

"Shut the door," he jerked. "I'll see to this." A rip served to free the tiny camera-recorder. More rips reduced the cloak to strips of a handy size for binding the inert body. "There!" he muttered, "That'll hold him. Now, how can I bust this thing?" He hefted it in his palm, and wondered. It was deliberately made to be tamper-proof. Bang it against the wall? The floor? That was no good. Both were thick, resilient plastic. Stamp on it? With soft leatherette boots! Not likely. Jam it in the door-hinge? That wouldn't work, either. "Hell and damnation!" he fumed, "a little thing like this, and I'm stuck with it!" She watched him in wide-eyed wonder.

"Always violence. Aren't you afraid you might injure yourself, someday? As for that thing," she shrugged, "put it in your pocket and take it with you."

"Of course," he said, sheepishly. "Good for you, dear. Come on, before his friends get suspicious." They went down the street at a calm, decorous pace that irked him even though he knew it to be excellent camouflage. Reaching the flier, he tossed her bag in the back, felt for his keys, and his fingers brushed Sir Arthur Dawson's letter. It was a sobering contact. This was his only link, his one tangible clue. Not much to commit crimes for, to risk security and earning power for.

They lifted off, straight up, smoothly, to the 500' level, while he looked up the map co-ordinates for Aberystwyth and punched them into the auto-pilot. It was approximately one hundred miles due west. Fuel enough to get there, and a bit over. Coming back would be a different matter, but time enough to think of that, when it happened. They levelled off and began the sedate seventy-miles-per-hour purr.

"You've ridden a flier before, of course?" he asked, and she turned from gazing down, to look at him.

"Once or twice, yes. Mr. Cameron, you called me 'dear' just a little while ago. Was that impulse, slip of the tongue, habit . . . or what?" He thought for a moment, studying her face, wondering what she was thinking.

"None of those," he said, at last. "Certainly not habit. It was deliberate. 'Dear' in the sense of important, expensive, of great value. With perhaps just a trace of personal affection."

"Oh!"

"Why? Did it offend you?" He hoped for a reaction, now.

"It doesn't matter," she said, flatly, and turned to study the scene slipping past below. He felt snubbed. Wrong again. Passive, negative, obedient—but there was a spark of personality there, still. What kind, he wondered? With a quick glance at the new disappearing city, he tripped his special gearing, and the tiny craft leaped into high speed.

"Oh!" she gasped, in surprise, as the airstream whipped her hair out into a trailing cloud of black mist. "Oh! You're going much too fast!" She laid a hand on his arm, and he stifled a grin. The speedometer climbed still more, and he gave her a quick side-glance. No point in frightening her out of her wits, if she was that sort. But she was not frightened. She sat bolt upright, one hand on his arm, her other hand gripping the

dashboard, blinking her eyes to the breeze, and actually smiling. The breeze had stung some colour to her cheeks already, and her grey eyes shone as she turned to him, hesitantly, half-afraid to let go.

"It's exciting, isn't it?"

"Great fun!" he laughed. "Nothing to be scared of. This is something like the way it feels to be excited, to enjoy something fast and violent." The speed had levelled off now, at two hundred, and the breeze was like strong and lively fingers. She remarked on it.

"I've never felt anything like it before" she cried, over the smooth drone of the motor. "The wind . . . it's alive . . . it tingles. I thought it would be cold!"

"Circulation!" he shouted. "Great for the complexion. Stirs the blood!" His cloak had long since slid back, baring his chest and shoulders to the breeze. He liked the beat of cool air against his hide, revelled in it. With a pretty determination, she let go his arm, and her grip on the dashboard. Still blinking, she slid out of the folds of her gown, letting it fall to her waist, and offered her body to the breeze. Unconsciously graceful, she swayed and turned, to let the rushing air press and rush past her skin. The expression on her face was like that of a child with a new treat.

Quite suddenly, in the midst of his smiling admiration, he felt a twinge of sympathy, of pity for her. Poor kid. With all her artless loveliness, a simple thing like dashing through the air at high speed was a treat, something she had never known, something forbidden. What a life she must have had. What a horribly dull, stodgy, deadly life everyone had, these days, never to know the thrill of danger, of racing blood and a fast pulse. And hers must have been worse than most. Growing reckless, she raised her slim arms high, above the edge of the windscreen, and was slammed back against the cushions with a faint shriek.

"You all right?" he reached out, helped her to sit up. She rotated her shoulders, experimentally, and smiled, ruefully.

"Sorry!" she mumbled. "That was silly of me. I was so excited I didn't think what I was doing."

"That's the whole secret," he said, sitting back. "Excitement is a good thing, so long as you don't get drunk on it. The real art is in knowing when to be careful, and when to take a chance. You'll be all right, so long as you keep below the edge of the screen."

She smiled her thanks, and sat up again, to savour the thrill of the rushing wind. She was getting pink all over, he thought, watching her. It suited her, too. Like a wax doll coming to life. A dashboard light warned him of heights ahead, and he readjusted the level-set, putting it on proximity-auto. They would be climbing, soon, and it was going to get as cold as she had feared, but she looked so gently rapturous that he hadn't the heart to cut her pleasure short. Instead, he groped in the under-seat locker, to get out his fur robe, spreading it across his knees, ready.

The cold had begun to bite him, and he could see the first traces of blue under the pink of her skin before she realised she was cold. Regretfully, she groped for her charcoal-grey fleece, pulling it up round her shoulders and face, snuggling into it. But it really was cold, now, and the sun had begun to sink in smoky red. She still shivered.

"Here!" He spread out the fur, offeringly. "Room for two, and it's real skin." He put one edge round her, and she huddled close, thankfully.

"It's nice," she said, softly.

"What, the fur?"

"That, and the excitement. I'm enjoying it. Thank you for this much, if for nothing else."

"This?" he laughed. "This is nothing. You've hardly begun to enjoy life. You just wait. There's a lot more to come," and he put his arm round her, happily. She had spirit, right enough, even if it was so well hidden that it had to be forced out of her.

They slid down to the 500 ft. level, now, as the red glitter of sunset from plastic roofways announced the nearness of their destination. Regretfully, he choked their speed back to the sedate legal limit, and she sighed.

"What a pity. It seems so quiet, now."

"That's the way it always seems to me," he grinned, as he thumbed the map book. "The quiet after the storm, only there's never a storm to make it a change. Ah well, nearly there, dear. Sorry . . . I shouldn't have said that."

"Why not?" she asked, naively. "I know what it means when you say it." He sorted out his references, and his memories, hastily, set up the pilot, and wished he could plot his own course as precisely.

"I'm sorry," he mumbled. "I've misled you a bit. There was much more than a trace of affection, that time."

"Oh. Does that mean you are becoming fond of me? It wouldn't be very wise of you, would it?"

"Why not?" he asked, wondering what was in her mind, now.

"Well . . . we are so different. I am not impulsive, nor violent. You are. You frighten me, sometimes. You did hit me, once . . ."

"I'm sorry about that . . ."

"No matter. You did it. It hurt, physically. But I don't mind. There are things about you that I like. I have enjoyed this ride. But you'd be certain to get angry and impatient with me, you can't help it. I can't help it, either. As we are, now—good friends—then that is all that can happen. But . . ." and she smiled, sadly, ". . . it's only when there is a real affection between two people, a personal relationship, that they can hurt each other badly. Spiritually." Then he recalled, belatedly, that she was, after all, a school-teacher, versed in the arts of instilling philosophy into young minds. And she was quite right. A real bond of affection between them would only aggravate their distress, their ill-matched ways. She was telling him, very gently, that they could never be anything but comrades in a cause, that she was co-operating with him from a sense of duty, and nothing more. And she was quite right.

"All right," he nodded, resignedly. "It doesn't matter, anyway."

"Now *you're* saying it," she was gently ironic, and he grunted.

"Touche. But I didn't mean it that way. What I meant was that we have a lot more urgent matters ahead of us, right now. I shall have to handle this thing down, as I haven't any references for the Humaneering Institute."

"Let me help you," she offered. "I know that place well enough. After all, I used to live there." Squashed again, he thought, and suffered himself to be guided.

Man-handling the controls kept him busy, but he was able to spare a glance or two for the scene, enough to see that the Humaneering Institute was as eccentric a place as its eccentric founder, now absent and reviled. The town, as delicate and pastel pure as any other, seemed to have drawn its outskirts

fastidiously away from the sturdy solid brick and stone of the Institute building, leaving it to solitary grandeur and defiance, on the cliff-edge overlooking the sea.

"It must be ages old," he muttered, glancing at the dark strength of the solid walls and towers. "It's like picture-book stuff."

"There was a university here, once," she murmured. "I'm not sure, but I think these are the original buildings. They're very old, anyway. More than ninety years, I believe." He put the flier down, carefully on an ill-tended green plot within the high walls. She hitched up her gown, got out, and he reached for her bag, stiffly.

"This way," she said, and led-off along a flagged path that jarred his feet with its hard, uneven contour. The red glow spilled across the grounds, painting the high walls with blood. There was a growth of some kind on the stone, he saw, as they came close. Amazement swelled within his mind. So 'ivy-covered walls' was not just a flight of poetic fancy, after all. There were such things.

He was so engrossed in this thought that he almost jumped out of his kilt as a figure stepped out of a darkly shadowed doorway and demanded, "What do you want, then?" The accent was novel to him, but unmistakably laden with positive hostility. A female voice, with full-throated violence in it! The novelty of it caught him speechless. Petra, by his side, was quicker.

"Margrit!" she said, softly, and went forward. "Margrit Owen, still here?"

"Pet Dawson!" the amazon said, putting out her arms. "Whatever made you come back here, you silly girl. But its nice to see you. Looking well, you are, too!" She embraced Petra with a quick hug, then released her and stepped back. "That's all right," she said, "but who's this you've come with, then?" and she eyed Stephen suspiciously. He looked back at her, with curious interest. No slip of a girl, this, but a big, buxom, magnificently shapely young woman. Her yellow hair, almost silver, clung to her head in tight curls. Her eyes were curiously light, with a gleam of great depths in them. She was attractive, apart from the stern suspicion of her expression. Her gown, black as midnight, was caught round her waist like an apron, and her statuesque body, rose-tinted

by the setting sunlight, though bountifully curved, was anything but soft or flabby.

"This is Stephen Cameron," Petra said, hastily. "He's a newsman . . ."

"There now," Margrit said, promptly. "Is he? Well, he can just get straight back into his machine and go from here. We don't want any of that sort here!" and Stephen actually took a half-step back in the face of her forthright belligerence. What a woman! He firmly expected her to offer him violence.

"No, no!" Petra put in. "Margrit, he's on our side. He's trying to clear Father's name."

"Fancy that, then," Margrit's hostile stance softened not at all. "He's big enough, to be sure, but what can he do?"

"If I could round up half a hundred people like you, Miss Owen," he said, "I think we could really get some action, knock a bit of sense into people."

"You can save the jam for those that like it." She looked up at him, still with suspicion, but some of the frost had gone from her voice. "We can do with a bit of help, though, and that's a fact. Hope you *can* do something, Mister," and she put out her hand. Handshake, he guessed. Old symbolic gesture of peaceful co-operation. This really *was* the dark ages. He offered his hand to meet hers. She had a grip like a clamp. Assuming it was the thing to do, he returned the grip, matching her increasing pressure, until she let go, and sighed.

"You've got a real man's hand, anyway, Mr. Cameron. Were you thinking of staying with us?"

"Call me Steve," he grinned, "and I'll be staying here just as long as I'm welcome, or needed. If I don't dig up something good about Sir Arthur, I may have to take refuge here."

"You'll be welcome," she said, with a sudden, warm smile. "Very welcome!"

"Margrit!" Petra's voice was soft, but with unmistakable warning. "We really came to see Doctor Simnell, if he's available," and Miss Owen gave her a keen look.

"Oh. Like that, is it? All right, if you'll come this way . . ." she turned to push open a heavy door, leading them into a long, stone-walled corridor. Stephen lagged back a little, to let the two friends have some privacy. Petra looked even more childlike against the Junoesque Miss Owen. Stephen eyed those supple shoulders, the silky play of muscle and sinew under the velvet skin, and wondered just what Miss Owen

was. What did she study? He dredged his mind for what he knew of *Humanearing*. It was supposed to be the science of total human efficiency, giving perfect poise, lightning reflexes, positive good health, that kind of thing. Well, Margrit was as good as a testimonial. For all her amazonian build, she moved like a smooth machine. He cast that simile aside, as being inadequate. A cat? More like a tiger. And that silvery hair, those strangely pale eyes . . . she was what the fabulous Vikings must have been like.

Petra, too. He studied her with sharpened insight. She had studied here. She was more like a kitten, really, but there was that same gliding economy of movement, the unconscious, effortless poise. Now that he thought of it, what was more natural than that he should find honest violence, here? If *Humanearing* was dealing with, and training, the body in its natural functions, then violence was a part of it. Like any other animal form, the human frame was designed to be explosively vigorous, when necessary. Under control, of course, but violence, for all that. Suddenly self-conscious, Stephen picked up his feet, aware of his awkward clumsiness alongside these trained creatures.

four

They found Doctor Simnel in a long, high-ceilinged room that was part-office, part-workshop. In the moments of reunion between him and Petra, Stephen saw and identified several pieces of equipment. A colorimeter, an electric-shock panel, to test psycho-galvanic reflexes, a tachistoscope, for fast reading training—he'd had some of that—a treadmill, and several other pieces whose function he could only guess at. The far end of the room was equipped like a gymnasium. Down there, two boys, stripped except for white loin-straps, were exercising with a medicine-ball. Simnell, getting up from his desk, was a small man, no more than five foot two, his brown hair cut in a short bristle-crop. His face, lean and tanned, was so expressionless as to defy any guess at his age. Like Margrit, he was stripped to the waist, above a white kilt, and his torso was a rippling mass of smooth, ropy muscle.

"Glad to meet you, Mr. Cameron," he said, quietly, "and to have you on our side. Lord knows, we need all the friends we can get. But you shouldn't have come here, you know.

We are outcasts. Social lepers, existing on sufferance. I suspect it is largely because the authorities have yet to find a way of getting rid of us without using force."

"I was hoping to get some inside information on Sir Arthur Dawson," Stephen admitted, "but it begins to look rather hopeless, now. I'm afraid I do this kind of thing rather often. Go off half-cocked, without taking elementary precautions."

"It has the merit of being an almost unique failing, these days," Simnel said, with a twinkle. "In happier circumstances, we would have welcomed you as a pupil, to train you how to discipline those impulses and turn them to good account. As it is . . . what you see is all that is left of the Institute. The boys are my wards, until the authorities think of a way to take them from me. And Margrit, of course. And myself. And that's all." Stephen looked round, then back at Simnel.

"I can understand your pupils leaving," he said, "but what about the staff, the teachers? Surely their training would have stood out against the prejudice?"

"It should have, yes. But, like everything else, people take what they want from Humaneering, and leave what they don't want. Almost everyone sees it as a way of training the body, a sort of Western Yoga. The mental side of the training involves a much more difficult discipline, much greater honesty. Not everyone can tackle it. Many fail . . ." Beyond his desk a small red light glowed, suddenly, and a silvery chime echoed. "Oh Lord!" he sighed. "I keep meaning to disconnect that thing. It's supposed to be a reminder, to be reserved as a warning for when there is something of prime importance being transmitted. As no doubt you know, Mr. Cameron, being a newsman. Just ignore it."

"Oh, but . . ." Stephen's training betrayed him. "You never know . . .!" Simnell smiled, shrugged his shoulders.

"All right, just as you please." He moved a switch, and the wall-screen lit up, colours boiling for a moment, then steadying into a mosaic pattern.

". . . direct from the New York office of Transworld News. In just five minutes, we will be taking you to Mohawk Field, for on-the-spot news and vision . . ."

"Mohawk Field?" Stephen gasped. "That's the spaceport!"

". . . for the first time in more than a year, a ship, from Mars, is on its way in, to land. People of Earth, stand by!"

The portentous voice faded and the meaningless mosaic shifted and reformed, soothing the eye, as the soft air of a hymn was heard. The two boys came loping up from the lower end of the room, pouring themselves along with unconscious grace.

"News about the Beetles, at last," Stephen muttered. "Let's hope, anyway!"

"More refugees, most likely," Margrit said, prosaically, and Petra sighed.

"I hope so. Maybe Father, too. That would be wonderful"

"Possibly not, for him," Simnel said, grimly.

"Maybe it's the Beetles themselves!" One of the boys, wide-eyed, made the suggestion. "Maybe they've come, at last, to take us over!" It was a shattering thought, Stephen confessed to himself. No doubt there were thousands of others all thinking the same thing. The music sighed into silence, the mosaics faded, to give a long view of the spaceport. Mid-afternoon. Bright sun in a white glare from smooth concrete. The muted roar, already, of steering jets to augment the juggling antigravs. And there she was, a squat, inverted pear-drop in glinting silver steel, settling down. Stephen could read the legend on her side. 'Q. 130. SALOME TRI-PLANET PASSENGER-LINES, INC.,'

Within seconds the gangways were run out and the cameras were zooming in for the personal view.

"This is ridiculous," Stephen muttered. "Why the devil haven't they given advance information, by radio? You realise, no-one knows just what is on that ship?"

"They know it," Simnell murmured. "See the civil guards? For what good *they* would be, but they are there." Then the oval hatch opened, and out they came. Two, three, six, ten, a dozen, fifteen, twenty-three people in all, to come down the ladder and stand in a silent group.

"Look at their faces," Simnell whispered, as the cameras swam in close. "Ecstatic, just like all the others were." With the expertness of long habit, the man with the microphone fastened on a tall, lanky, broad-shouldered man, the only one there without the starry-eyed look. He owned up, ruefully, to being the pilot, and that he surely was glad to get off the ship 'for the first time in two years.' No, he hadn't seen any Beetles, didn't know a thing about them, except that they had given orders to have his radio circuits removed. The newsman

left him, politely, the camera swinging to follow his progress. The engrossed watchers saw a small, wiry, determined man push forward, bent on being heard.

"My name is Crowther," he said, "and I have something very important to say."

"I'm sure you must have, Mr. Crowther. You've actually *seen* the Beetles?"

"I have, but I don't want to talk about them. I'm not qualified, anyway. I'm an electrical engineer, not a theologian. I have a message from Sir Arthur Dawson . . ."

The newsman coughed, discreetly, and tried to move on, but Crowther refused to be brushed aside. "No, hold on," he insisted. "I know how you feel about him. Me too. But he did look after me, helped me a lot, and I made him a promise, on my honour, that I would deliver a message from him to his colleagues. I made the promise, and I'm going to do it." The newsman coughed again.

"Is it . . . er . . . the kind of thing you could say on the air?"

"I don't see why not. All it is . . . tell them, he said, to remember Pavlov's dogs. That's all."

"Very interesting, I'm sure. Now, if you'll excuse me . . ." But Crowther was still not finished.

"No, no," he insisted, firmly. "I was to deliver the message in person."

"Oh, I'm sure they'll be watching you, this very minute. The whole Earth is watching us, Mr. Crowther." There was gentle reproach in the newsman's voice.

"Can't help that," Crowther said, stoutly, with a furtive tug at his blue cloak. "I have to deliver that message in person, on my honour."

"Oh, very well," the newsman was getting irritated, now. "Transworld News will see to it that you are found a seat on the very next strato-jet to England. Now, if you please . . ." and the camera swung on. Stephen stared round at Simnell, at Petra, Margrit, the two boys. All were blankly uncomprehending.

"Doesn't mean a thing to me," Simnell muttered. "I've heard of Pavlov, of course. Some of our training techniques are based on his conditioning reflex ideas, along with all sorts of other material. But that sounded as if it was to mean something special—and I'm afraid it just doesn't. Not to me!"

"Could he have meant some other colleagues?"

"Hardly. No, it's meant for us, sure enough," and he scratched his head. Stephen hit the desk a crashing blow with his big hand, in exasperation.

"It's all part and parcel with that damned letter, and all the rest of it. Half-sense, half-rubbish. Something not quite right about it. Something just out of sight. Something we ought to be able to see, but we're missing it."

"What letter?" Simnell wondered, but Margrit hushed him.

"Listen to this," she said, nodding to the screen. The newsman had singled out a tall, gracefully calm Negress, her ebony skin in sharp contrast to the pale yellow gown she wore over one shoulder, like a cape.

"Yes," she said, in a rich contralto. "I have met those beings we call the Beetles, and I know quite a piece about them too."

"Excellent," the newsman's voice gushed. "Won't you tell us, do your best to describe them for us? All of Earth's teeming millions are hanging on your words, Miss Coralie . . ." She bowed her dark head, modestly, then raised it again.

"I could tell you," she said. "But I won't. I'll do better. I'll show." She raised her right hand. "Right here, I have a visio-tape recording of an interview that I had with these creatures. They arranged it specially. I was privileged to take it, and to bring it here. I want everybody to see it."

"That's her fortune made," Stephen commented, cynically, as the newsman made haste to secure the precious recording, and to assure his listeners that arrangements would be made, immediately, to transmit the pictures. "She'll live in comfort off that scoop for the rest of her life." Then he dismissed that in favour of Simnell's question, felt for Sir Arthur's letter, and got it out. Catching Petra's eye, and her permissive nod, he passed it across to Simnell, who read, critically.

"Well . . ." he said, at last. "I don't know. I'd heard of this letter, but this is the first time I've seen it. And I don't know what to think. It's Arthur. It's his writing. And yet . . . it's not, somehow. He may have been agitated when he wrote it, of course. But it's wrong, somehow." Stephen had a sudden flash.

"It could be a code of some kind. That would account for it."

"Hmm ! I hardly think so. Arthur was no cryptographer, not as far as I ever knew. Nor am I, for that matter."

"All right !" Stephen was afire, now. "That means that it's something dead simple. It would have to be, for him to do it, and us to spot it."

"No harm in trying," Simnell reached for a scratch-pad, copied out the letter, carefully. "Andy . . . Robin . . ." he called the two boys. "Come on, this is something you can help with. Take a copy. See if you can find a hidden message." Petra took the fire, too, and Margrit showed interest, but Simnell stopped her.

"Not you, my dear," he smiled. "You have other skills. How about something to eat, while we work, eh?" and Stephen realised, suddenly, that he was hungry.

"Can I help?" he offered, and Margrit laughed.

"Never you mind. Help in my own kitchen, is it? Not if I know it." She went off, cheerfully.

The meal was demolished, the remains washed down with better coffee than Stephen had ever tasted before. Discarded paper began to litter the floor. Brows were furrowed. Then Petra gave a quiet sigh.

"I've got something, I think," she said, and Stephen leaped at her so excitedly that she ducked away from him, and almost fell from her stool.

"I'm sorry !" he mumbled, helping her up. "Are you all right?" She smiled, and settled patiently on her seat again.

"You'll be angry," she said, "when you know. It's so simple. Just the first letter of each whole sentence !"

"What?" Simnell gasped, and began to scribble, with Stephen breathing hard over his shoulder. It made a sentence, of a kind. 'EYE BLINK KEY TO BEETLE HEEL.'

"It's a joke" Stephen said incredulously. "It *must* be. It doesn't mean anything. Does it?" Simnell frowned at the paper.

"Wait a bit," he muttered. "Pavlov's dogs. Eye-blink reflexes. There's a link there, somewhere. For human experiments in conditioned reflexes, they used the eye-blink reflex instead of salivation, so far as I remember. So that's what *that* part means. But HEEL . . .?"

"The heel of Achilles," Margrit said, suddenly. "It's a weak spot, isn't it? Sir Arthur is working with them, isn't he?"

And he's found out some way of hitting them. That's it, I bet you!" Stephen went across to her, grabbed her by the shoulders and swung her round, gleefully.

"You're a genius!" he said. "A big, beautiful genius!"

"Go on!" she chuckled. "You save that for when you mean it," and she gave him a hearty thump on the shoulder with her fist. He swung away, just in time to surprise a most peculiar look on Petra's face. It was gone before he could analyse it, so quickly that he could not be sure he'd seen it at all.

"That's all right," Simnell complained. "But . . ." a warning chime cut him short. They hurried to watch the screen, with its inevitable mosaics, and a sonorous voice warning them that they were about to be taken direct to the news-room of Trans-World News, in the heart of New York, for 'This truly unique first sight on Earth of . . . the Bettles.' They saw Miss Coralie again, her dark face glowing.

Then there came an unsteady long shot of Heliopolis, with its pastel and foam-crete even more lacy delicate than on Earth. Skilful designers had made full use of the favourable gravity-field to realise designs as dream-like as the frozen spray from a rainbow waterfall. Then the view steadied, and settled on a new and strange type of architecture, so odd as to make the watchers gasp. It was as if, Stephen thought, someone had run together seven or eight huge soap-bubbles, frozen them into glittering rigidity, and then burnished diamond facets all over the curved surfaces.

"This is a temple," Miss Coralie's rich voice told them, "built by the people of Mars. I was told that there are many more like this, at least one in each of the major cities. Heliopolis has three. This was the first, and I was privileged to be the very first Earth citizen to enter, by invitation. This is what I saw."

This view cut and resettled to show a round doorway, went on in and through it, to emerge into rainbow dimness, and both Petra and Margrit, together, said 'Oh, look!' in exactly that tone of voice all women, everywhere, use when they see a baby.

But these were not babies. Stephen stared, rubbed the back of his hand across his eyes, and stared again. They were elfin-small, fragile, flower-fair, with lacy wings which reflected hues like translucent pearls.

"Fairies?" he said, helplessly, and Simnell grunted.

"More like angels. But look closely . . ." there was an odd, strained note in his voice. "Note the details. The humanoid shape is illusory. No sex organs, and no human joints ever moved like that. The eyes, particularly . . ." but Stephen had caught them for himself. One fragile being had slid gracefully down through the air, to flutter, and stand, and smile—a strangely toothless smile—but a friendly, welcoming thing, just the same. Those eyes were much too big, too round, too blue for that delicate little face, but before he could comment, the thing began to speak. His groping attempts to find words failed him utterly, now. That voice was a magical synthesis of plinking harp-strings, muted silver bells, quiet piccolo notes and the hushed whisper of a distant breeze . . . it was like nothing he had ever heard before. And the restless, shifting play of rainbow colour through its gauzy wings, as it spoke, was enough to catch the breath. He had no clear understanding of what this delicate creature was saying, except a feeling that it wanted nothing but his good, his happiness, and that it hoped, wistfully, to be made welcome to his planet, soon.

As if walking from a doze, he became aware that Simnell was shaking him, that the screen was dark and silent, that Petra, Margrit and the two boys were sitting, wide-eyed and staring, like wax figures, just as he had been. He shook himself, shudderingly, and met Simnell's dark frown.

"If Sir Arthur knows a trick to beat that," he mumbled, "then we've got to have it. What the devil was it anyway?"

"Devil is the right word," Simnell growled. "It was a combination of many things, some I know, others I can only guess at. Clever use of subconscious racial imagery, for one, special sound-frequencies, blended colours, all adding up to a very high-power hypnotic technique. I don't wonder Mars and Venus went down without a fight. Here, give me a hand to wake this lot."

f i v e

The dreaming ones came alive with mingled surprise and wonder, full of the loveliness they had seen.

"Fancy calling them Beetles!" Margrit said, almost angrily. "The lovely little angels. And to think we've been frightened of them!"

"We would do well to be afraid of them still," Simnell warned her. "I am, for one. Remember . . ." and he held up a reproving hand, ". . . that was just a visio-tape recording, rebroadcast over television. A pale imitation of the real thing. Yet it reduced all of you to helpless imbecility. It was only my training, plus an ingrained suspicion and a hard head, that saved me from being caught, too. All over the world, right now, millions of people are sitting, just as you were, in a numb, half-witted stupor, over that! Ask yourselves, what is going to happen when they arrive in person?"

Into the hushed silence, Petra said, plaintively, "What does it matter? Surely those lovely little creatures can't mean us any harm. Why, they're such little, dainty things . . .?" Simnell snorted.

"Your father doesn't seem to agree, my dear. He seems to have gone to a great deal of trouble to warn us, and to tell us that there is some way of overcoming their influence. Some way of defeating them."

"That's a point." Stephen got up, restlessly. "Obviously, this Crowther is carrying some message with him, and we're supposed to get it from him."

"I would think so," Simnell agreed. "If they keep their promise, and fly him over, he should be here—let me see—it's nine-thirty, now . . . six hours or so. That would make it about 4 a.m. in London, and here . . .? Oh, possibly by noon. We will just have to wait until then."

"Hang on a bit, though," Stephen objected, his impulsive nature rebelling against anything so passive as waiting. "That's not going to work out. Look, we don't know *how* he's carrying the information, do we?"

"Naturally. It could be anything. Written message, tape-reel, pictures . . . it might be anything. Why?"

"Just this. Sir Arthur's message was an elaborate code, wasn't it? And Crowther's spoken message, that was a code, too, of a kind. Miss Coralie's tape was pretty obviously an authorised effort . . . no-one else has ever been allowed to see

the Beetles, even. And the pilot, he said, had never even been off the ship. Now what does all that add up to?" Margrit had been watching him, intently.

"I know," she said. "Nothing leaves Mars, unless they let it out."

"Exactly. That's just it. Which means that if Crowther is carrying some information—and he must be—than it's damned well hidden. He's smuggling it out. It makes sense, anyway, because, after that showing, all Earth will be on the side of the Beetles, and anything against them would be confiscated."

"I agree with that," Simnell nodded. "But what of it? Crowther will come here just as arranged . . ."

"Along with a horde of newsmen, wardens, officials of all kinds. Bound to be. This is *news*, man. And, knowing how everyone feels about Sir Arthur, we'll have a fat chance of getting any secret information out of the man, with that lot breathing down our necks."

"Yes," Petra put in, surprisingly. "Especially if they so much as suspect that it might be a weapon of some kind against the Beetles!"

"Good Lord!" Simnell sank into a chair, slowly. "I'd not thought of it like that. You're quite right, of course. But what the devil can we do?"

"Just this!" Stephen said, excitedly. "It will be the devil of a risk, but it might come off, at that. Look, I know one chap at least, in the office, that I can count on. He'll let me have the exact time that the Crowther flight is due to get in. Then . . . oh blast, I forgot. My flier is almost out of fuel."

"Pass that, for a moment," Simnell said, "What then?"

"Well, I'd figured to slap down on the airfield, just as the strato-jet arrives, or just as Crowther is getting off the plane, grab him and get away. Given the surprise element, it would work."

"It might, at that. But where would you take him?"

"Why," Stephen grinned, "I'd bring him here, of course."

"But . . ." Simnell muttered, and then paused, and began to smile "Yes, I see, now. Of course. He is kidnapped on his way here, so this is the last place they will think of looking for him. It's crazy. But it has a fair chance of working."

"If only I had some fuel for my machine . . ."

"Forget that. We have our own machine. It's a four-man job, and you'll need that, too. You'll need help. This isn't

something you can do alone. I'd like to come with you, that I would, but I'm a bit too old for that kind of game."

"Surely not!" Stephen looked his surprise, and Simnell smiled, ruefully.

"It's true, though. One learns to be realistic, in this science. I'm fit enough, but it's the fitness of the well-worn, well-cared for machine. I'd be a bad risk in any excess. I shall be sixty-three, next time round. No, you'd better take the two boys. They can help to keep an eye on the plane, and deal with any interruptions." Their faces were eager, at once, but Margrit killed their hopes.

"Rubbish!" she said, flatly. "This will be hit and fast stuff. I'll go with you, Steve."

"Me, too!" said Petra, at once, and he stared at her, aghast.

"Oh, come now," he said. "Let's not be ridiculous!" and she set her little chin, mulishly.

"If you go, I go," she said.

"But it would be madness!"

"I have the right," she said, flatly. "I got you into this, in the first place. And, if it's to help my father, then I have the right. And I can fly a machine, sort of, anyway. I'm going with you!" Stephen shot a baffled look at Margrit, who smiled, and nodded.

"You sure *you* want to come?" he demanded. "It's hardly woman's work."

"I hope the day never comes, boyo," she said, "that you try to play rough games with me, but if it ever does, you'll be sorry." He eyed her, respectfully, and turned, appealingly, to Simnell.

"Quite all right," the doctor said. "Margrit could handle any ordinary man, with ease, although I suspect she is trying to entice you into a struggle with her, to suit her own ends."

"You can't blame a girl for trying, can you?" she grinned, unrepentantly. "Come on, Steve, we'll go and check the machine, just to make sure it's all right."

"That's a point, too," Stephen hesitated. "Why I wanted to use my own flier. I've modified the throttle-settings, taken the limit-switches back quite a bit. She'll do two hundred, easily." Simnell chuckled at this.

"You're a man after my own heart, Mr. Cameron. Not to worry. Margrit and I took the limit-switches off our machine altogether, some time ago. We thought that if ever the time did come that we wanted to leave here, we'd want to do it in a hurry, you see."

They went out into a long dark passage, through a series of deserted rooms, and then into the open air. Stephen felt the fresh breeze from the sea sting his face. Margrit led the way to a long, open-ended shed, clicked on a light, and went up to the metal-clad casing as familiarly as if she had done this kind of thing every day of her life.

"Athlete," he said. "Cook. Mechanic. Genius. Is there anything you can't do, Maggie?" and she chuckled.

"Don't be daft, Steve. How do I know, I haven't tried everything, yet." She threw the casing back with a grunt. "Come on then, get your hands dirty. It won't hurt you any." He tossed his cloak aside and fell to work, readily enough. Apart from dust, there was nothing amiss with the machine, except a few transmission points, which were stiff. Grease took care of those.

"You know," he said, musingly. "I've been thinking. Miss Petra. She was here. She had the same kind of training as you. I imagine she's fit. But why is it that she is as passive and negative as any ordinary woman? I mean, you're altogether different. You're alive. Not that you're any the less feminine—but I can't see you ever being a doormat, like her. Why is that?"

"That's a chance for me to tell you a tale, now, isn't it?" Her voice came hollowly from the other side of the motor. "But I'm a fool. I'll tell you the truth. Like this. Sir Arthur founded this school, you see. Not that it's all new, of course. Some of it is as old as the hills. But the methods were his own, and the thinking. And they say the shoemaker's children always go badly shod, you know. It was like that with him. I'm two years older than Pet. Twenty-three, I am. I was nine when I first met her, and a right spoiled little madam she was. Bad tempered. Scratch and bite as soon as look at you. Then, when she finished ordinary school, she came here permanent." Margrit came out from behind the casing to stand by him, wiping her hands on a clutch of waste.

"Of course," she said, "it had to stop, sometime. All at once Sir Arthur got fed up with her, went for her bald-headed, he did. Made her take the full course, right from the bottom, and hard. And it seemed to break something inside her. She went right round the other way. All soft and washy. 'Never mind' she would say, 'it doesn't matter.' That kind of thing, all the time." He stepped back, to join her, to wipe his hands, and nod.

"I think I can see that," he said, softly. "Father-image turns unkind. End of everything for an only child. And then, of course, this business of the big scandal couldn't have helped any, either."

"That's true," Margrit sighed, tossing her wad into a bin. "Come on, I'll get you some coffee." She linked her arm in his, and they went back along the dark passages. "Yes, she was just finishing her training when we had the news. She had to leave, for her own safety. But we had to drive her away. No spirit left. And you know the rest, don't you?" They came to the kitchen, a place of warmth and white ceramics, of light, and glittering chrome. Shoulder to shoulder, they washed their hands in a stream of hot water.

"I don't think her spirit is altogether dead," he said, thoughtfully. "I've a suspicion there's still fire there, underneath." Margrit looked at him, with an odd gleam in her curiously light eyes.

"You're a bit of a queer one, yourself, Steve," she said. "Sometimes you're smart, and sometimes you're just plain stupid."

"I suppose I am," he agreed, readily. "Although I don't quite see what you mean by that. Here, just a moment," for he had spied a dab of black on her ample bosom. "Hold still, you've got a bit of grease there . . ." and he reached for a tissue. To his surprise, she snatched it from his hand and turned away.

"Go on, now. Out of my kitchen," she said, and he went, wonderingly.

Back in Simnell's big room, he made a very guarded phone-call to the *Globe-Courier* office, on sound only, asking for one Alan Kent, of the process-engraving room. There was instant excitement in his friend's voice.

"Steve! Where the hell are you hiding? Old McInnes is livid. We can feel the excitement right down to here. They say he actually shouted at his secretary, and she fainted clean away."

"Never mind where I am. Look, what time is Crowther's plane due in?"

"Six a.m., on the dot. Hey, if you're thinking of being there, to get an exclusive, and redeem yourself with Mac, you can forget it. We have four camera teams all laid on, already."

"Ah well," Stephen pretended disappointment. "Never mind. I'll think of something. Here, did you see the angels?"

"Saw them? What d'you fancy I'm processing, right now? Of course I did. Had me crying my eyes out, they did. Beautiful things. Tell you what, though. Those colours . . . they don't come out on a process print, at all. I'm having to fake them in. Something wrong with our apparatus, I expect."

"Nothing wrong with the apparatus," Simnell commented, as Stephen relayed the information to him. "As I suspected, those colours were largely subjective. Induced in the mind, in the same way that things cast a green shadow in red light. It's not the eye that sees, but the brain through it. Still, Steve, if you're to fetch London Airport by six, you'll need to leave at four, to be awake by three-thirty . . . and it's ten-thirty now. Sleep, for you. Come on, I'll show you where."

The sun was up, but not enough to give any warmth, not at this altitude. Stephen peered down. The dashboard clock stood at ten minutes to six. The open space and white lines of the airport lay like a gaming board down there, ahead. By his side, Petra peered from her charcoal-grey wrap, only her eyes and nose in sight. Margrit, in the rear seat, was whistling, softly, a lilting air that teased his mind until his groping memory placed it. An ancient Scottish marching song, it was. 'Wi' a hundred pipers an' a', an' a' . . .' He grinned, suddenly, What a girl she was! Petra put a gentle hand on his arm.

"There it comes," she said, and he cocked an ear. Then he saw it. The silver-winged air-liner grew, swiftly, and came round in a giant, drooping circle, sliding down into an approach to the field below. Stephen took hold of the controls.

"Here we go," he said, grimly, and sent the flier down in a steady fall. It was imperative that he take her down on hand, for the presence of that giant machine down there would have sent his auto-pilot into an avoiding course, and he had to be close, as close as possible. They were dropping like a stone, now, as he got a firm idea where the liner was going to halt.

"There's a hell of a crowd down there," he muttered, suddenly apprehensive at the sight of people pouring on to the field.

"Never mind," said Margrit, cheerfully. "They won't be expecting us."

The flier slowed, dragging at their stomachs, then landed with a gentle jar. Stephen cut the engine back to idling speed, set the controls ready for a straight-up jump take-off, and scrambled out. Stripping off his cloak, he passed it to Petra and shivered as the morning breeze brushed him. Apart from a loin-strap, and a gauze hood over his head and face, he was naked. Scrambling out beside him, Margrit was likewise. Both of them gleamed from a film of slippery grease. This was Simnell's suggestion, to reduce the chances of some more enterprising person trying to grab hold and delay them.

"Right," he said, to Petra. "You know the drill. Stay with the flier. We will get Crowther. We'll get him this far, if nothing else. And you get away, with him. That's the most important thing. If you have to abandon us, do it!" Turning, he studied the lay. They were less than fifty yards from the giant liner, on the opposite side from the crowds, and the gangway ladder. Chances were good that no-one had seen them, yet. "Come on, Maggie," he called, and began to run, and she with him, silent in their thin sandals. Shoulder to shoulder, they came to the great silver structure, ducked under the rear of it, and slowed, cautiously, as they swung round the other side. The first passengers were just appearing at the top of the ladder.

"Keep behind me," Margrit called, and was away like a deer straight into the unconscious crowd. Stephen would have gone full-tilt at them, and was irked by her sudden assumption of leadership, but he pounded after her, immediately. He saw, then, the way she went through the crowd, and swallowed his chagrin. Agile as an eel, she would slip between a pair of unwary figures, give a quick wrench, and send them falling apart like toppled dolls. All he had to do was follow in her wake, adding a hefty shove, here and there. She cut through the mass like a blade through soil, leaving a sprawling furrow. On, up to the foot of the gangway, and all was going like clockwork. Crowther was just reaching the last two steps.

Even as he hesitated, staring wide-eyed at the ripple of disturbance, she reached for him, grabbing his shoulder with one hand while the other flicked in a stabbing movement to the side of his head. Stephen, pounding up, saw him fall like a burst sack.

"Grab him!" she cried. "You're heavier than me. Come on. I'll clear the way for you."

Understanding instantly, he collared the limp Crowther, tossed him over his shoulder and whirled round. Good job Crowther was a little 'un, he thought, as he tramped heavily after Margrit. The advantage of surprise was fading, now, and here and there, indignant citizens were beginning to move in. Margrit gave them scant respect. Heading straight for where a crowd of camera-men were huddled round their hastily-mounted equipment, she put out her shiny-greased arms, jerked, heaved . . . and over went tripods, dollies, cameras and newsmen in a crashing, scrambling heap, arms and legs flailing. Light-footed as a cat, she was through. With a fierce grin, Stephen pounded in her wake, swinging his free fist like a hammer, handing out swipes and thumps with a wild impartiality. Breaking into the outer layers of the crowd, one man, quicker than the rest, threw himself at Margrit.

Stephen saw it all, with one of those moments of pin-point clarity which sometimes comes in times of high excitement. A big man, in a pale saffron cloak, red-faced with intent, arms wide and grasping. Her splayed hand jammed up under his chin as she crouched, then straightened her sturdy legs, bunched her shoulders . . . and he seemed to leap upwards, backwards, and fall away, arms grabbing at the air. And they were clear.

Margrit trotted on ahead, moving like a cat. Stephen stamped along after her, Crowther bumping and jolting over his shoulder. On, and down, and round and under . . . and out, and only clear concrete ahead.

Then he saw a little knot of grey-cloaked wardens gathered round their flier. His heart jumped and he crowded on speed, anxiously. It would be a crushing disaster, now, to fail after having got so far, and all had gone so well. The fifty yards seemed like miles. Margrit had put on speed, too, and was well ahead. All at once, the little knot of men parted and he got a quick sight of Petra. Petra, getting out of the machine, stripping off her cloak. He groaned, and screwed up all his energy into a last mad burst. Petra, in scanty briefs, and greased—she had insisted on it—looking like a child against the burly wardens. Then he gasped, and almost fell, as she exploded into savage action.

Stiffened fingers stabbed at one man's eyes, and he fell back. She spun, kicked the second man viciously in the crotch. He

doubled up, to get her knee in his face. Dancing away, she jabbed the third with her elbow, folding him up, and the fourth man flung himself on her from the back, in a bear-hug. Down she went, to wrench and jerk, and he sailed over her shoulder.

"Spitting wildcats," Stephen muttered, admiringly. "Remind me to be very careful how I treat her, in future." Then they were getting close, at last. On ahead, Margrit shouted, "Get back in!" and Petra ran to the flier, scrambling aboard. Margrit snatched a backward glance, to give Stephen an encouraging grin. It was her undoing. The second warden, on his knees in agony, reached out, caught her ankle. It was enough to send her off balance, staggering, to sprawl full length on the concrete. In sudden fury, Stephen, pounding up, paused just long enough to kick, viciously, and staggered on. Heaving Crowther over the side, he turned back to Margrit, but she was already scrambling to her feet.

"All right?" he panted, and she grinned, ruefully.

"A bit of skin gone, that's all. Nothing to cry about. Come on." They ran back to the machine. He gave her a boost, and felt a heavy hand on his shoulder. It was the elbow-in-the-ribs one, gasping but valiant. Stephen turned, shrugged free, thumped him away with a left, then threw his right fist, bunched with all the energy he had left. The shock jarred him all the way up to the elbow, but it felt grand. Then he clambered into the flier, slammed the throttle over, and the craft leaped for the sky.

"That was good fun, while it lasted," Margrit said, cheerfully, "but you shouldn't ever hit a man like that, Steve. You could break your hand, that way. Here, let me have a look at it." He put out his right hand, flexing it for her inspection. It ached, but it was all right, otherwise. Setting and locking the auto-pilot, he turned to her.

"Never mind my hand," he said. "How about you? That was a nasty toss you took there."

"Ah!" she grinned. "Served me right, that, did, for being so cocky. I should have known better. But it was only a scrape, man. Bit of skin. Some bleeding. Nothing to worry about."

"My eye!" he growled. "Let me look," and he saw that she had skinned both her knees, her left thigh and hip, and all her left arm and shoulder. Blood was oozing, purplish, from

the angry raw surface. "That must hurt like blazes," he said. "You stretch out there, on the seat. I've got a first-aid kit. Go on, now!"

"All right, Steve," she said, surprisingly mild, and stretched herself out, to lie quite still while he swabbed away the grease and smeared the raw places with soothing lotion. Rather ridiculously, he had expected the texture of her thigh and shoulder to be hard and tough, but it wasn't. She was smooth, and soft, and silky. As he finished smearing the lotion on her shoulder, he met her eyes, those curiously pale eyes with the far-away look in them, and, for no reason at all, he felt suddenly uncomfortable.

"How about you?" he demanded of Petra, in the rear.

"I'm quite all right, thank you!" she said, with a strange, cool, crisp note in her voice. Funny look in *her* eyes, too, he thought. With the uneasy feeling that he was right in the middle of something he didn't understand, at all, he wrapped himself in his cloak, threw the throttle into high speed, and settled into a corner, to doze, and relive that brief moment of thrill, back there. It *had* been fun. He hadn't enjoyed anything quite as much, in years. Margrit, she was tremendous. Petra, too, surprisingly. Who'd have thought she could lash out like that? And they'd got Crowther. Thing was, what had they got, along with him? What was the big secret, if anything?

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Crowther was beginning to mumble, and stir out of his coma, by the time they got him into the big room in the Humaneering Institute. Simnell took charge.

"Saw most of it, on the screen," he chuckled, "Until Margrit sent the cameras flying. Wish I'd been there. All right, I'll take care of him. You lot go and scrape off the grease. There'll be some more breakfast ready for you, by then. I imagine you'll be ready for it."

Crowther, they soon found, was a very determined man indeed and although he was quiet with it. Simnell had to labour long and patiently to convince him that he was, indeed, in the place he was supposed to be, that this was the Humaneering Institute, and that it was all right for him to deliver his message. When, at last, he was convinced, he rubbed his head, dubiously.

"Well, sir," he said, "all right. I'll take your word. But the message is nothing more than what you've heard already. Remember Pavlov's dogs. That's all."

"But it's meaningless," Simnell protested. "You're sure you have remembered it quite accurately?" Crowther was positive.

"I have a very good memory," he said. "A very good memory indeed. It's a great help in my work. I can memorise complete circuits, with no trouble. In fact, Sir Arthur commented on it. That's why he chose me to work with him. I didn't like it, mind you, but it was better than being confined to the ship. You know . . ." he looked round at them, earnestly, ". . . I'm not too happy about those angelic things. They've got the Martian people completely bamboozled, for all their great brains. Like sheep, they are. Sir Arthur . . . well, I suppose he is a traitor to humanity . . . but I had to admire him, in a way. No nonsense about him. 'I can do what I like with them' he would say. 'They don't deceive me one little bit. I could smash them all, in a moment, Crowther, if I could only get a hundred sane people to listen to me,' that's what he said."

"Quite!" Simnell murmured. "And that's just what we want to know about. Didn't he tell you?"

"Not me," the electrical engineer confessed. "All he wanted me for was his experiments. And those angel things were watching us, almost all the time. He was teaching them about us. Using me as a sort of guinea-pig." Stephen could see the dark grimness on Simnell's face. This was deadly evidence, piling up. What a story this would make for the newscasts, if and when they got it. This was an unarguable proof of perfidy.

"What sort of experiments?" Simnell asked, sadly. Crowther frowned.

"They weren't very dignified," he muttered. "He had me learning to remember things, according to some queer system of his own. I kept telling him it wasn't necessary, that I had a perfectly good memory, but he would have it. Like shooting a puff of wind into my eye, and then I had to say a word . . ."

"Eh?" Simnell gasped. "What did you say? A puff of wind in your eye? But that's it! Lord, what thick-headed fools we are! Come along, Mr. Crowther. I'm sorry to offend your dignity all over again, but this has to be done." The puzzled engineer was led to a chair and made to sit. Petra

had paper and stylus ready. Stephen looked on, half-understanding. Simnell took up an insufflator. "Now, Crowther, you'll have to help, a little. Which eye, first?"

"The left," Simnell held the bulb, brought it close, squeezed. Crowther blinked. "Fingers" he said, firmly. Simnell puffed at the other eye. Crowther blinked again, and said "Toes" in a baffled voice.

"Write it down," Simnell ordered. "Although I'm damned if I know why, or what it all means. What have fingers and toes to do with it? What did you have to do, next, Crowther?" The engineer frowned, scratched his head.

"Well . . . Sir Arthur put a plate on my arm. An electrode you know. Then he made me hold out my hand, and passed shocks through my fingers, and my toes, too. Not violent, of course. But it was most unpleasant."

"One shock per finger?" Simnell demanded, tensely, and Crowther shook his head.

"No. There was a sequence to it. Little finger first. One shock, then two, three, four and five, very quick. And then the next finger. And so-on. I couldn't see any point in it, and I told him so." Crowther pursed his lips, indignantly, as Simnell laughed.

"Lord!" the little doctor chuckled. "It would take Arthur to think of a dodge like that. And right under the noses of the angels, too." He got busy, wheeling forward the shock equipment, strapping a contact to Crowther's arm. "You see," he explained. "It's pretty obvious that Arthur wanted to code a message, and to baffle the angels, at the same time. Now, whatever else they may be they're not stupid. So he used stimulus-response memory. It's an old thing, a side-effect phenomenon that came out of Pavlov's experiments on conditioned reflexes and inhibitions. In fact, Mr. Crowther is carrying memories he doesn't know he has."

"I beg your pardon!" Crowther was gently indignant. "I have a very good memory. If Sir Arthur had wanted me to carry a long message . . ."

"The Beetles would have known about it. They'd have had it out of you in no time. You'd never have been allowed to leave Mars. This way . . ." he moved a switch, took up a probe, ". . . the memories are keyed into physical reflexes."

"I don't believe it," Crowther had gone pale, now. Simnell smiled.

"Left hand, I think, and little finger? Tell me, Crowther, what will the first word be?" The engineer frowned, obviously concentrating. Sweat beaded his brow, suddenly.

"I don't know," he mumbled. Stephen, watching, held his breath as Simnell brought the probe near, tapped Crowther's little finger, once.

"Numbers," the engineer said, and gulped. Two taps, and he said "Morphology," very carefully. Three shocks got the word "Excessive." Four produced "Shout" and five gave "Address." Simnell shook his head, baffledly, but kept on.

"I'm starting on the next finger," he said. "Write it down."

"Ten," Crowther said, helplessly. "Crystalline . . . vibration . . . adequate . . . similar." Stephen moved to look over Petra's shoulder, at what she had written. It made no sense at all. Just words. The next finger produced "Nine . . . fragile . . . fatal . . . hooter . . . life," and the index finger, "Beetles . . . sudden . . . loud . . . public . . . cycle." Crowther's face was a study, now.

"Nothing on the thumb," he muttered. "Right hand was next."

"Very well," Simnell shifted to his right hand, and began again. Crowther braced himself, unhappily.

"Analogues . . . human . . . storage . . . five . . . period," he said. "Eumenidae," and he spelled it out, "Bodies . . . larval . . . year . . . due." Then, "Wasp . . . alive . . . period . . . interval . . . eighteen," and finally, "Require . . . food . . . ovulation . . . next . . . months." His face was wet with sweat, and Simnell was as black as thunder cloud as he saw their blank bewilderment.

"Doesn't it make any sense?" he demanded. Margrit summed it up for them.

"Worse than the old Welsh, it is," she said. "Just a lot of old gabble."

"Just the same," Stephen put in, "we ought to get all of it. Toes next, I think, isn't it?"

"That's right," Crowther nodded. "Only the left foot, though. Nothing on the right." Shrugging his shoulders, resignedly, Simnell helped him off with his boot, and began the weird process again. Once more the words burst from the engineer's mouth, in groups of five, "Chief . . . field . . . hypnosis . . . ear-plugs . . . loud," then "Weapons . . . projector . . . wear . . . bang . . . good," and "Modulated

... chromo ... polaroid ... drums ... luck," and finally, "Magnetic ... gesture ... eye-shields ... shout ... Dawson." Crowther sighed, thankfully.

"That's the lot," he said. "And I'm glad it's over. But here, why couldn't I remember any of that for myself?" Simnell put away the probe, switched off, began to unstrap the plate, a faint smile on his face.

"You couldn't remember, because each separate memory reaction was tied in with a mild shock, a pain, and that was enough to set up a block in the mind. I wish I could explain the message as easily. What the devil . . .?" He got a sheet of paper, copied down what Petra had written, and went off to his chair, to con it with increasing bewilderment. The others did the same.

"What on Earth is, or are, eumenidae?" Stephen wanted to know, "And what have they to do with ear-plugs?"

"I'll get a dictionary," one of the boys offered. "It should be in there," and he ran off. He was right. It was. He read it. "It's a kind of wasp," he told them. "The kind that stings a caterpillar helpless then lays its eggs in the body so that the young will have fresh meat to feed on."

"Pleasant thought," Stephen growled. "See, it has wasp down here, too," and he counted the words in between, without thinking. Then it came to him, and he went back to the beginning of the script, feverishly. "Numbers, Ten, Nine . . ." he read, and his enthusiasm faltered. Margrit looked up from where she was squatting, by his knee.

"Sounds like a Bible reference," she said, and he stared at her.

"Why not? Have we a Bible?"

"Oh, yes. I'll go and get mine." She got up, and while she was gone he had another try at reading every fifth word, but got lost in the confusion. Irritated, he started again, writing out the words in columns of five, just as they had come from the fingers. Margrit came back.

"Here you are," she said. "Numbers, ten, verse nine, 'And if ye go to war in your land against the enemy that oppresseth you, then ye shall blow an alarm with the trumpets . . .'"

"That's it!" he shouted. "I've got it!" and he jumped up, grabbing her round the waist. "You great, lovely, wonderful girl, you!" and he hugged her until she gasped.

"Have you gone mad, then?" she demanded, "Or is this a proposal, maybe, and me with a Bible in my hand, and all? Don't say my luck has changed!"

"Luck be damned!" he hugged her again. "You're pure gold, Maggie. Listen to this, Doctor Simnell. Reading across the fingers . . . that's all there is to it . . . and this is what you get. Numbers, ten, verse nine. You heard what Maggie said, on that. And it goes on 'Beetles morphology, crystalline; fragile; sudden excessive vibration fatal; loud shout adequate; hooter, public address, similar; life-cycle analogous Eumenidae wasp; require human bodies alive; food storage; larval period; ovulation, five year interval; next period due eighteen months; chief weapons, modulated magnetic field projector; chromo gesture hypnosis; wear polaroid eye-shields; ear-plugs; bang drums; shout loud; good luck; Dawson' And there you are. What d'you make of that?"

"You mean . . ." Petra whispered, "that a loud noise is sufficient to destroy them? Is it as simple as that?"

"That's obviously what he does mean," Simnell snapped. "Lord, we'd never have guessed it, by ourselves. Fragile, crystalline structure. No wonder they were able to fly with those silly wings. And what an easy mark we'd have been, the way we have hushed everything these last twenty five years."

"Here!" Crowther said, suddenly. "That reminds me of something he said, once 'Don't be scared of 'em' he said, 'if you were to shout at 'em, they'd fall apart' That's what he said. I thought he was joking."

"What a man!" Stephen said, reverently. "Then shall ye blow an alarm with the trumpets . . . it's as easy as that!"

"Polaroid eye-shields, to screen out the chromo-hypnosis. Ear-plugs. He had it all worked out," Simnell muttered. "A great old man. But what a devil of a risk to take. If they'd suspected, they'd have killed him . . ."

"He said they wouldn't do that," Crowther put in again. "He said they needed all of us alive, that it was very important to them . . ." and by this time the boy Robin had come back with a huge volume of the encyclopaedia. Never seen such a place for books, Stephen thought; the old-fashioned, clumsy kind of things made of paper. He listened while the boy read out all the details of the revolting habits of the Eumenidae wasp. Petra shuddered at the recital. Crowther looked sick.

"No wonder he wished us luck," Stephen growled. "What a prospect. We've got to get going, you know. They will be coming here, soon. Now that we know how to hit them, we've got to pass the news on."

"Yes!" Simnell nodded, grey-faced. "But how? Who will listen, to us?"

He went back to his desk, to sit, thoughtfully. "It's a devil of a mess. We need to blanket the globe with this information, because there's no knowing where they will land. But how can we? Not only are we social outcasts, but, because of our friend Crowther, we are now criminals. And it won't take the authorities all that long to guess where he is, once they've had time to think. They'll be here, in force, and then it will be all over."

"It's over already," Margrit said, quietly. "Listen . . ." and in the sudden hush, they could all hear the muted drone of an approaching flier.

"By the sound of it," Stephen got up, "it's almost on the ground. And only one. Hardly an army!"

"One is enough," Simnell said, gloomily. "We have no friends, outside of here."

"We're not just going to sit here and be taken, surely?" Stephen glared round. "We can show fight, at least. Come on, Maggie . . .?" She gave him a grin.

"All right, boyo," she said. "Let's have a bit of fun, eh? It might be the last chance we'll ever have," and she went out ahead of him, leading him to that very doorway where they had first met. It seemed a life-time ago, but was only last night.

Out there, in the mid-morning sun, a small flier had just bounced to a stop alongside Stephen's own machine.

"Let's see what he does, first," he whispered, and they huddled together in the shadow of the doorway. On impulse, he put his arm round her. "You're a great girl, Maggie," he said. "I wish things had been a bit different."

"Don't be daft," she retorted. "If things had been different we would never have met," but she snuggled warmly to him, for all that.

"Here he comes, now," Stephen whispered, as a thick-set, heavy figure got down from the machine, in a dark blue cloak. He took a second, a closer look, and whistled, softly. There was no mistaking that bald head, and beady eyes. "As I live and breathe," he muttered, "it's my ex-chief, Mr. McInnes himself, and alone. This is the moment I've been waiting for, for years," and he stepped out into the sunlight, almost

hungrily, so that McInnes could see him. The intruder stopped.

"Ah, Mr. Cameron. I imagined I'd find you here."

"So you've found me. I wasn't lost." Stephen went forward, cautiously. "And what do you propose to do with me, now that you've found me?"

"You have Crowther," McInnes said, calmly. "Your stunt, at the air-port, was neat, but it had your hand-work written all over it. One had only to link you with Miss Dawson and her father, and this institute. Simple. And here I am."

"For all the good it will do you," Stephen said, coldly. "Or the pack that will be at your heels, in a few minutes."

"You take me for a fool, boy," McInnes smiled. "The latest reports of your appearance were from Paris, because I so arranged it. No-one but myself has the data, plus the wit, to track you here. And I am not in the habit of throwing away an inside story."

"That's all I wanted to know, Mac," Stephen grinned, wolfishly, and went forward with a rush. "You've slipped up, this time, coming here on your own . . ."

Then, somehow, things didn't work out the way he'd planned, at all. For all his eager, angry strength, he couldn't get a hand on McInnes, and then, all at once, a cracking pain in his arm made him come up on his toes.

"In my sinful youth," McInnes murmured, maintaining a grip like iron, "before the great depression set in, I was the belligerent sort, like yourself. Only I made it my business to have some training. Ah, the young lady is a friend of yours, I imagine?" For Margrit had come loping across the grass. "Good day to you my dear. My name is McInnes. I would like to see the person in charge of this establishment, if that is possible," and he let Stephen go with a jerk that sent him staggering, to stand and rub his shoulder, ruefully.

"Don't know what to make of it," he muttered. "The old devil is up to some game, you can bet."

"You might as well come in," she said, readily. "I can't see what harm it will do. But don't try any of that clever stuff on me, mister."

"I assure you," McInnes said, heavily, "my intentions are entirely honourable, peaceful, and possibly to your benefit."

"All right, then," she said. "Come on."

Stephen followed, in some chagrin. Another time, he promised himself, and the outcome would be different. But who'd have credited the old man with a grip like that?

"Doctor Simnell," Margrit said, "this is Mr. McInnes, of the *Globe Courier*."

"Chief news-editor," McInnes said. "May I sit? Thank you. I see you have Mr. Crowther, and that you have squeezed him of his news."

"How the devil did you guess that?"

"Come now, Doctor. Obviously Crowther was an emissary. I see paper and scribbling, reference books, and your general air of finality. I use my eyes, sir. I will go further. I will hazard a guess that Sir Arthur Dawson's message was to do with some sort of defensive measures to be taken against those ridiculous fairy-like creatures. Yes?" Simnell sat back in his chair, fingering a lip.

"You saw that visio-tape recording?" he asked, curiously

"Of course, and very poor stuff I thought it, although it seemed to have a devastating effect on the rest of my staff."

"Just a moment," Simnell got up, went to a cupboard, brought out a box-like instrument. Plugging it into a socket, he set a pointer, moved a switch, and a faint, high pitched scream made Stephen's ears ache. Simnell looked at his guest.

"Can you hear anything?"

"Not a thing," McInnes declared. "Is that wrong?"

"No." Simnell switched off the generator, sat down again. "I was just confirming something. Part of the fascination of those images was due to high-frequency sound signals. Being an elderly man, you couldn't hear them. Nor I." McInnes lifted an eyebrow in quick understanding.

"So it was a form of hypnosis, then? That would account for a lot of it. I've been too long in the business of suggestion to be prone to it. But you must have learned more than that, surely?"

"May I ask just what your interest is?" Simnell said, cautiously.

"I'd like to know that, too," Stephen put in, grimly. "What are you really after, Mac?"

"Your suspicions are understandable, of course," McInnes said, blandly, "but quite erroneous. I have to live in this world. I do not care much for it, but I conform. Nevertheless, I am old enough to remember when life was life, when men like Mr. Cameron, here, were the rule, rather than the exception. I was of the belligerent sort, myself. They were good days. As I see it, unless we do something, and do it quickly, these ridiculous fairy-like things will enslave us, as they have

undoubtedly enslaved Mars and Venus . . . and it will be too late."

"I think he means it," Stephen marvelled. "You old fraud, so you want to have a crack at them, too, eh?"

"I do, indeed," McInnes said, heavily. "I have a sinful urge to smash the silly, squealing, fluttering things. They remind me of insects, and I have an instinctive loathing for anything that crawls or flies."

"Your instincts do you credit, sir," Simnell said, and went on to tell just what the angels were, and what they had in store for the people of Earth. McInnes listened, grimly.

seven

"It is even worse than I feared," McInnes rumbled. "And we have such little time. In my capacity as chief news-editor, I receive information often before it is to be released. Thus I can tell you this. The aliens will be arriving, landing on Earth, tomorrow, little more than twenty-four hours from now. Three spheres. One in Delhi. One in New York. And one in London, at the very airport you have so recently quitted, Mr. Cameron. Why these places were chosen, I do not know, but I do know the times. We are to be first. One sphere will descend on London airport at precisely noon, tomorrow." He fastened his little green eyes on Simnell. "The whole world will be watching us, Doctor. We must strike. That is why I came, in person, to appeal to you. What is the weapon? What must we do?"

Simnell told him, briefly, and he sat, plucking his lower lip, in wonder.

"Noise. Is that all? Just a loud noise? How damnably simple. And yet, noise-making devices are almost non-existent, these days."

"I've got a hooter, on my flier," Stephen offered, but McInnes shook his head.

"All transport is to be grounded, by order, half an hour before the landing. And, if they can divert rockets, they could surely pluck down aircraft."

"They are able to use some sort of magnetic field modulation," Simnell murmured, "according to Sir Arthur Dawson . . ."

"Noise!" McInnes said, angrily. "How can we make a noise?" and then he smiled, and slapped his beefy thigh. "I

have it. Old men, veterans organisations, pensioners, old comrade groups . . . I know dozens of them. And they will have all sorts of old things. Drums, trumpets, even old-style fire-arms. If I may use your visor-phone, Doctor . . .”

They showed him to the instrument, and listened, raptly, as he called number after number, from memory, always with the same message. Round up as many as possible of the fit and able ; have them dig out drums, trumpets, old bugles, whistles, anything to make a loud sound ; rush them to London Airport by noon tomorrow. Again and again he repeated the message.

Then, shutting off the machine, he got up, heavily.

“ I’m obliged to you, Doctor Simnell, and the rest of you. I must go, now. From my office, I shall be able to make contact, by closed circuits, with people I know and can trust, in New York, and Delhi. They must be warned. Also, I shall have a highly special edition of the *Globe-Courier* to get out. The scoop of a life-time. As I once told you, Mr. Cameron, news doesn’t just happen, it has to be made, and tomorrow we will make the biggest news story in a quarter of a century. The good old days are coming back !”

As the drone of his flier died away in the distance, Stephen went back indoors, to stare at the rest, indignantly.

“ See here !” he said. “ I don’t propose to sit back and let that old fire-eater have all the fun. I’m going to be in on this, if it’s the last thing I do.”

“ Me, too,” said Crowther, unexpectedly. “ I feel sort of guilty, thinking what I did, about Sir Arthur. I’d like to have a crack at those Beetles.” Simnell looked round at the faces, and chuckled.

“ Let’s all go,” he said. “ This is something I’d like to see, myself. Now, who has any bright ideas for a gadget to make a loud noise ?” and they fell to arguing and wrangling, and furious improvisation.

It was a few minutes away from eleven thirty the next morning when two fliers touched down into a private field just outside the great grid-lines of the air-port. The dead-line on flight was eleven-thirty, and they had just made it. Crowther and the two boys climbed out of one craft, and Simnell, Margrit, Petra and Stephen from the other. All were stained a dark sun-tan colour. All wore dark glasses. Stephen, looking round, had to smile.

"A right suspicious-looking bunch, we are," he said. "Not that anyone will notice, not in this crowd." All routes to the air-port were black with people. The news had broken only an hour beforehand, but it was long enough to flood London and its outskirts with the biggest influx of visitors that city had known in fifty years. High above, tiny with distance, but clearly visible, hung the silver sphere, catching many a curious eye.

"Stick together," Stephen ordered. "Pile in after me and Margrit, or we'll never get through."

He took Margrit's hand, and together they cut a path through the crowd, at the expense of many a pained look, and quiet murmur of complaint. They got to the hastily erected crash-barriers, and one of the gates there, through which a thick stream of eager people were passing, to get on to the landing-field proper. A burly warden put up a hand against Stephen.

"Might I ask what you have there, sir," he said, respectfully, but prodding at a bulge under Stephen's cloak. It was a length of alloy tubing, shaped and pierced so as to produce a great noise when blown expertly. He had laboured long and diligently to master the trick of it. The warden shook his head.

"I'm sorry, sir, but you'll have to leave it . . . or leave," with a shrug to his companion, he added, "I don't know what's come over everybody, this morning. Never seen so many noisy ones."

"But what's wrong with a bit of joy and rejoicing?" Stephen argued, with a sense of despair.

"Against orders, sir. The Angels, bless 'em, have specially asked that there be no offensive demonstrations. Just a quiet, peaceful welcome." Stephen had a moment of itch to defy, but the crowd was too vast, and there were too many others pressing behind. Dazedly, he permitted the warden to remove his blower. Margrit gave up her cymbals, Simnell his huge rattle. Petra and the boys got past, but Crowther was stopped, too, and parted from a tube like Stephen's. He, too, had worked hard to make it, and longer to learn how to blow it, and was crestfallen.

"What are we going to do now?" he groaned. "The boys, and Miss Petra, they still have their whistles . . . but did you see that great pile of things by the gate? All sorts of things, there were."

"I saw them," Stephen growled. "I don't know whether the Beetles have been too smart for us, or whether that slimy McInnes has sold us out, but either way, we're sunk, now!"

"It wouldn't have worked, anyway," Simnell said, quietly. "We've been rather simple-minded about this. Look at the size of the field. And this is open air. If we had all blown, and banged, and hooted for all we were worth, it wouldn't have made much of a noise, especially with this wind. There's a regular storm blowing up, by the look of it. I'm afraid we've had it." Even Margrit was down.

"Ah!" she muttered. "The Beetles are too clever for us, see?"

"I'm not having that!" Stephen set his jaw, angrily, and faces turned in the crowd at his powerful tone. "There must be some way." He looked round, and then up, and something of Sir Arthur's message rang a bell in his mind. "Here . . ." he took Crowther by the arm. "You know how to set up a public-address system?"

"I do certainly. Why . . . oh, I see what you mean!"

"Yes!" Stephen glanced round at the others. "It'll be switched off, now, of course, but if we can get Crowther, here, up to the control-tower, and get the P.A. system working . . . we'll give them all the noise they want. Yes?" He saw immediate understanding in their faces, and his spirits leaped. "Right. Margrit, you and me again, to lead the way. Crowther tuck in behind us. The rest of you guard our tails."

"I'm with you, boyo!" Margrit grinned, and together they plunged forward, heedless of gasps and protests from the crowd, shouldering the docile humanity aside until they came to the double glassite doors leading into the tower. Stephen put his foot to the hairline where the doors met, and they burst inward. The little band piled in. Stephen snatched a quick look back, to see they were all safe.

"Come on!" he called, and charged for the foot of the stairs. He had already considered the lifts, and decided against them as being too much like a trap. The stairs would be arduous, but safe. They could also be the worst part, if they ran into a determined stand by a group of officials. Just by blocking the way, a small crowd could hold them up. Up, round, up and round he went, three times, without meeting a soul. He could hear Crowther tramping along behind him. Then he debouched on to a flat landing, a door opened and out came three silver-clad officials, investigatively.

"Can't come up here, sir," said one. "Not for the public . . ." Stephen hit him with a furious right hand, sent him spinning, shouldered the second one aside and dived for the foot of the next flight. There, he turned, to see Margrit up-end the third one with a casual flick of her hand, and Crowther duck and leap past.

"Carry on, boyo!" she called, not even out of breath. "We're right behind you." He laughed, went for the stairs. Three more rounds, steadily up, on to yet another flat. No-one there. He raced to the foot of the next spiral, and heard footsteps coming down. The walls were glassite, here, and as he crouched against a corner, he could see out and down over the packed crowd on the great airfield. A silver cloak showed. Stephen grabbed for an ankle and heaved, bringing the man down in a falling scuffle, helping him along with a hefty thump. He grazed by Crowther, who was hugging the wall, and panting. On and up, again, three more circuits, and this was the last level.

From the flat landing, he could see the great semi-circular room, bright with lights, windowed all round, and glaring against the dark backdrop of piling storm-clouds. And it was full of officials, all come here to have a privileged view. Gasping for breath, he put a hand on Crowther's arm.

"Keep clear," he panted. "Don't want you hurt. Let us flatten the beggars first, and then you can get cracking on your job. Now . . ." and he put his foot to the door, once more. It burst open, and he charged in, full tilt into the crowd of officials. A grunt was shocked from him as he rammed into a little knot of three men, sending them sprawling. A plastic-topped table went over, with a crash, and two thrashing silver-cloaks tangled up in it. The third recovered his balance and surged back. He was almost as big as Stephen, and annoyed. They collided with a grunt, and wildly flailing arms. Stephen stopped a whirling blow to the face that blinded him with tears. Poking out a left, he shook his head, steadied himself, and slammed out at the vague blur he could see. His fist met something. Then he went to his knees, heavily, as a weight hit his back. Someone, with grasping arms and hard knees, bore him down. He called on his arms and legs for a last heave, and they almost failed him. That gallop up the stairs had cost him dearly. Sobbing, he got to one knee, reached back, and plucked the clinging one from his back, over his head and sent him spinning towards the big man.

The two of them went falling away backwards, to crash into

a massive desk, and it went over with a thud that shook the floor. Stephen got to his feet, heavily, and looked round. Margrit, in a corner, was warily fending off the cautious onslaught of three officials, while she stood across the bodies of two more. He saw Petra come through the door like a pouncing tigress, straight at a little group of silver-cloaks. Outside, beyond the glassite doors, Simnell and the boys were in pitched battle with a crowd of reinforcements. Crowther, in the far corner, had armed himself with a heavy ruler. His face was grey.

Stephen tramped forward to scoop up the overflow from Petra's savagery. She had blinded one, and used her foot and knee with sickening effect on another, but the third and fourth, between them, had caught an arm, and her hair. He cut down at one, with a chopping stroke the he had seen Margrit use, smashed the other in the face, and she was free.

"All right?" he gasped, and she turned to him a face that was a mask of wild fire, her nostrils wide, and her lips drawn back to show her teeth. The two who had gone down with the desk had scrambled up and were coming back for more, one wiping blood from his face with a shaking hand. Petra danced forward, her arms out, fingers hooked. Stephen lunged with her. He hit one, solidly, sending him back against the fallen desk, to slam into the glassite wall. Petra seized the other in a twisting, aching grip, and he screamed, but held on, so that she went over with him in a whirl of arms and legs, full on top of the man who had just hit the desk. The three of them slammed solidly into the desk again, and the glassite sagged . . . and cracked . . . and split. Stephen, aghast, dived forward, just in time to clutch the fluttering end of Petra's gown. Clinging desperately, he was dragged scrapingly across the jagged plastic feeling his skin rip and burst, and his chest and shoulder slam up against the low sill. He groaned as the weight came on his arm, and the tendons creaked under the strain. Then, suddenly, the weight was gone, and he heard the faint whisper of a scream. Then nothing.

He lay quite still, his arm still out of the window, the scrap of cloth in his fingers, and felt sick at the hideous pictures that came to his mind. Then a warm, strong hand gripped his shoulder.

"Steve, boyo . . . are you all right, then?"

He struggled up, drawing his bleeding arm in from the window lifting it gingerly over the jagged plastic. He got to his knees,

stood up. He looked into Margrit's face, stupidly. He felt old, weary, drained of all feeling.

"Petra . . ." he mumbled. "Look . . . I had her . . ." and he held out the wisp of cloth. She gripped his arm, strongly.

"It's all right, Steve," she said, quietly. "You did everything you could. No sense in blaming yourself. Come on, now. We're not done yet."

She led him to where Crowther crouched and prodded at gauge-panels, worriedly. The room was a shambles, with sprawled and stricken bodies all over the place. A stiff breeze was whipping in through the broken window. Simnell was in rags, with a dark welt across his cheekbone. Robin had a black eye and a red nose. Andy grinned all round a fat lip, and it was a moment before Stephen realised he wasn't grinning at all, but was almost in tears at the sudden disaster.

"It's no good!" Crowther said, savagely, slapping the panel. "There's no power on. Not a flicker of juice anywhere!"

"We should have guessed," Simnell said, suddenly, in an awful voice. "They can manipulate magnetic fields, remember? We should have known!"

Stephen sagged. It was the final blow. All the dash, the effort, the bloodshed—and Petra's supreme sacrifice—all wasted. All useless. And all his fault, too. If it hadn't been for him, none of this . . .

There came a huge, quiet surf-roar from the assembled crowd. It was like a great faraway 'amen.' Simnell turned.

"They're here," he said, simply, "and there's nothing we can do, now."

They moved to the window, to see the great silver ball swell hugely as it fell through the air. A stiff swoosh of wind plucked at them through the broken window as the sphere slowed, to hover about three feet above the concrete, and the people moved back, and clear, in silent awe. A round orifice grew large. Out they came, a host of gauzy, glittering, sparkle-winged creatures, to glide and flit over the crowd.

"I think we should pray," Margrit said, softly. "I'm going to, anyway." Stephen wished he could join her, but the choke in his throat would not have let him speak, even if he had known what to say. There was a sudden blink of intense light, far off, against the black cloud-wrack.

"You may not have to pray," Simnell said, suddenly tense. "That, I think, was lightning. They've triggered off the storm, with their magnetic field games, and swooping down like that

. . . they've set it off . . ." and his voice was suddenly lost in the crack-bang hammer-and-rumble of the thunder.

With the first shattering peal, the scene below was transformed as if by magic. The swarm of glittering, sparkling things were gone, snuffed out like snowflakes in the fire, like burst bubbles, leaving only traces of dust to swirl in the breeze. Simultaneously, the silver sheen of the sphere was gone, showing instead, a grey, pitted, aged surface. The great sixty-foot metal globe fell, solidly, to the hard concrete, and the fabric of the tower shuddered with the impact. There was a growling hum of power, and Crowther looked back over his shoulder.

"That's it," he said. "The power's on, now," and ran to the switchboard. Stephen let out a great sigh, and the shadow of nightmare lifted from him. Rubbing his hand over his eyes, he turned to Doctor Simnell.

"I think you should go to the microphone, Doctor," he muttered, "and tell them what has happened. This crowd, all those watching . . . the television cameras will be working, now . . . they need to know what it's all about, and what to do next. New York will be watching, and Delhi. The whole world. Tell them all about Sir Arthur, and what he did. And Petra. And what's still to be done. There's still Mars, and Venus . . ."

"Not me," Simnell smiled. "I am nothing, in this. You should tell them. You have the right. Had it not been for you, my boy . . ." and Margrit gripped his arm, strongly.

"He's right, Steve, boyo. You started it all. You're the one to tell 'em." He hesitated, looking round. He met Margrit's eyes, and knew what that light was, in them, now. She smiled, and nodded.

"You won't go away?" he asked, foolishly, "will you?" and she punched him on the shoulder, cheerfully.

"Not me," she said. "You won't get rid of me now. I'm keeping my eye on you, from now on."

He went to the microphone. Crowther tapped it, expertly, and nodded.

"Ladies and gentlemen," he began, paused, drew a deep breath, "People of Earth. Forty-eight hours ago, I set out on a fool's errand, to clear the name and the honour of Sir Arthur Dawson. You have just seen the results. And this is how it all came about . . ."

John Rackham

Having just returned home after a lengthy stay in Norway with N.A.T.O., John Ashcroft makes his debut in New Worlds (although he has appeared in both our companion magazines) with a delightful little vignette concerning the birthday of Man's interplanetary colonisation.

THIS WONDERFUL BIRTHDAY

by JOHN ASHCROFT

Overhead glittered stars and the Ring; below, darkness lay like a tide on the plain. The earliest hint of morning tinted the east, silhouetting black hills. Wind moved, announcing the light, quietly. The wind was all that moved.

Filmer, one of the few who followed the trade which had given his ancestors their name, stood staring westward where the Ring arched with silent brilliance from beyond the flatness. He had no desire to stamp about or swing his arms, especially in this gravity; protective clothing kept out most of the chill, and he was content to watch the sky. Once, tiredly, he raised a gloved hand to wipe watering eyes: the wind on his face was cold. His knees ached, but pride prevented him from sitting down.

"I wish they'd design man-sized warpers," he complained wryly. "I've been here five weeks recording your final preparations, and I still feel as if I weigh a ton or two."

Rhamsid, standing beside him, chuckled softly; he was small, supple, and several years of outdoor work here had given a deeper tan to his inherited darkness. He moved his limbs easily, smiling up at the bigger man.

"I'm quite used to weighing over twice normal," he said.

"It's all very well for you and the others," retorted Filmer. "You've been here supervising for years—and anyway, you yourself must only weigh about two thirds of what I do, for a start."

"One grows accustomed to it," said Rhamsid gently.

"A lot of people will have to," commented Filmer with a dour grin.

"You're not on the settled list, then?"

"Me?" Filmer looked up into the sky and smiled. "This means little to me—oh, it's a great occasion, granted, don't imagine I'm belittling it—and the climax of a fabulous amount of work. But I don't fancy making a home here. It'll be rough for decades yet, and in any case I'm quite happy where I am—and so are my family." His eyes searched in the sprinkles of powdered glass overhead. "Get the ceremony over, and I'll be homeward bound for my next assignment."

Beside them, cameras stood sparkling in the light of the Ring and stars, like metal and glastic spiders; multijointed slender legs glinted vaguely, and compact bodies hummed in the gloom. Antennae quivered in the wind, singing.

Rhamsid's gaze followed the cold horizon between the rodlike legs. Flatland stretched unmoving in shadow; then, against tints of morning beyond the hills, came a brief stray motion through the stillness, a smudge that rose, drifted, wandered and fell soundlessly—dust, caught by errant wind tossed skyward, wafted a mile or so and then discarded like an unwanted toy. It must have been lifted from somewhere past the unseen border between old desert and treated soil.

Rhamsid watched distant hills, thinking, while Filmer impatiently surveyed the sky. At last, without turning, he said, "I'm sorry you feel that way about settling. To me, this isn't another colony—it's home, and I've worked for it. I shall be staying when the Builders arrive, and so will most of our crews."

"You're welcome," said Filmer drily. "Oh, don't be offended, Ivor, and don't think I'm a bloodless cynic. It's

just that I can't quite summon up your attitude and enthusiasm. And, as I said, I'm extremely comfortable back in civilisation."

Then he looked up again, and glanced eastward where the hills showed more distinctly in the creeping light. "They'd better show up soon, you know. After all the preparation and last-minute rush, it would be hilarious if old Galbraith arrived late."

Rhamsid chuckled again, a warm sound in the cold wind.

Filmer swivelled one foot on its heel, making a ridge in heavy soil. "Fancy dragging someone so important all this distance for a ceremony as small as the one they've planned—then leaving it to the last possible second. Typical, isn't it?"

Rhamsid was pointing skyward. "Here they are." He studied his watch. "Perfect timing, too."

Filmer stepped stiffly to his equipment and activated it. Cold rod limbs tightened and flexed; bodies glowed and hummed, tilting. Lenses rose like unblinking eyes to watch the stars. The two men waited together in the emptiness.

High above, a stranger to the sky moved in starfrost g gulfs between the Ring and a steadily glittering planet; the ship circled, pulsing greenly, and came to rest, hovering against the Pleiades.

"And not an instant to spare," murmured Filmer, half in complaint, half in admiration.

From the ship a tiny pearl detached itself to fall down through the wind. The eyes of the men and the cameras followed its lazy motion till the drifter whispered overhead and settled thirty yards away on the soil. Its hull glistened coldly, glassily.

Rhamsid straightened and stood to attention without realising that he had done so. Anxiously Filmer checked purring equipment as the hull divided and the ramp slid down. Furtive pre-dawn light picked out the metallic parts of an airtuit, the transparency of a helmet, a pale face within it.

President Galbraith walked slowly to the ground, clasping in one gloved hand a staff, in the other a small silver cannister. Wind plucked in fitful futility at the rolled silk on the staff. With careful but apparently casual steps the President strolled forward, closer to the cameras, then halted

to turn and face the drifter, holding the staff vertically at arm's length with its point two feet above the soil.

Kimf-Dahma emerged from the drifter and marched forward. He stopped, six paces from the President, dwarfing the human. In stately succession, seven other figures emerged and formed a line beside Kimf-Dahma; enclosed in differently shaped armour with built-in Talkers, they stood or crouched or squatted in the first grey light that was melting the darkness from their feet. The eyes of all of them were fixed on the upheld staff.

The President's arm never wavered.

"Quite a display," thought Filmer almost grudgingly, aware of his own discomfort even after weeks of acclimatisation. "Granted they've rehearsed in 'fuges under this gravity, but I'll bet some of 'em can hardly stand up at all, and that arm must be aching like fury—unless the suit has supports in it, which is more than likely."

Suddenly the President stabbed downwards, driving the staff firmly into the soil with one sharp thrust.

"Highly embarrassing if it struck a stone and didn't go in first time," Filmer mused cynically, grinning at the idea. "But the ground must have been sieved in advance for that."

Clumsily gloved fingers tugged at the braid and let the pennant unfurl. The silk flapped, rippling its stylised design of two clasped hands in the uncertain light.

Despite his cynicism, Filmer left a tingle of emotion: after all, this was a historic moment, and he should feel honoured to see it from this unique viewpoint. Then, apprehensively, he awaited the inevitable, ponderous and utterly predictable speech.

With the pennant fluttering just above head height, President Galbraith looked at the eight representatives, and then past them to where tints of green or blue now edged the horizon, projecting grassless hills into dark clarity. Rising wind moaned around, a quick gust making the silk crack sharply. And, slowly, the President smiled, visibly relaxing from the attention position.

"I must apologise," said the President almost ironically, "to those anonymous but undoubtedly expert semanticists and poets who worked for so long and so diligently on the speech which I am now expected to deliver."

Filmer and Rhamsid exchanged surprised glances; with more diplomacy, the eight representatives managed to conceal the unease that must have entered their minds.

Softly, almost nervously, the President chuckled.

"It was a good speech, beautifully worded, grammatically impeccable—but is that the speech for this moment? I consider it more useful, more human, and of course far more personally gratifying to record here some thoughts of my own, and to attempt to convey my feelings at this moment. My position is purely that of a figurehead, and my power is little, if not non-existent; but, just for once, I choose to exercise Presidential privileges and make my own speech, in my own way." Galbraith smiled at the row of startled, silent representatives. "Relax, please, all of you: I know that only two of you are accustomed to such high gravitational strain."

Thankfully but almost awkwardly, the representatives inched their variously shaped bodies into more comfortable stances.

Filmer glanced again at the shaken Rhamsid and thought, "Ye great gods, at last a President dares disregard tradition: this'll cause debates throughout a sphere sixty light-years in radius—but good luck to the old firebreather!"

As Rhamsid looked at him, Filmer punched his right fist into his left palm in a gesture of exultation—then he straightened stiffly and froze his face as he saw that the President was glancing in his direction and had observed the gesture; but, to his astonishment, Galbraith returned his delighted smile, thereby unconsciously providing a minor mystery that would baffle watchers of the films for centuries to come.

With the silver cannister in one hand, Galbraith walked to and fro on the soil, heavily, and then looked at the already dying stars in the eastern paleness.

"I am reminded," said the President quietly, "of the landing on Mars by MacDunn's Expedition. It is no coincidence that today is the eight hundredth anniversary of that event—measured in Earth years, of course." And Galbraith smiled briefly, for it was by now a joke and a religion that time be measured in both local and the ancient Earth scales, under whatever suns humanity might stand. "You have seen, perhaps, the primitive recordings of MacDunn addressing his men after the landing—"

Yes, thought Filmer, recalling long-ago history lessons. A gang of quaintly garbed pioneers stumbling from their ramshackle rocket, red dust swirling about them, to stand round a dune while MacDunn planted his flag and prayed aloud that humanity might find in the chasm of space a hole deep enough for him to throw in and bury forever the implements of war.

“—and there are those of you who insist, perhaps with some justification, that human history began with that speech; and, again, some insist instead that history really began when the Martian Colony became self-governing.”

Around, wind played in empty land, crossing flat country to the hills; beyond the hills, an ocean rolled its grey waves through the birdless morning.

Kimf-Dhama shifted his weight unobtrusively from one foot to the other, inwardly cursing this gravity that hauled on his spindly limbs; but his glossily blue features remained impassive within his helmet; greyish wrinkled lids moved leisurely over wide eyes that looked down into the President's face.

Galbraith met his gaze and smiled slightly. “Again, some might claim that real history began with the Seafarmer Expedition, for that was the first fullscale encounter between my race and another.”

Kimf-Dhama forgot aching limbs in a rush of pride; his ancestors had worked well with humanity to rejuvenate his world and plan the League—and he felt renewed gratitude, also; for his world had been saved on the day a little black man fell from the stars preaching a lunatic philosophy of peace.

The President's gaze roved over the representatives in turn. “And the voyages to your worlds, each was a further stride into the dark for a race that still is young, and each was historic. In its own way, today's event also is historic.”

Sudden intensity made the voice almost whiplike.

“MacDunn's Mars was a withered wasteland which no longer exists—even with the Tower's resources and old Martian knowledge at our disposal, the task of regenerating the planet was enormous: but it was done. And Seafarmer found a dying world with divided races; yet, now, that world thrives. So, also, will this planet.”

And the President looked for silent seconds, wonderingly, where titanic stresses had wrenched a satellite asunder to make of its death a sparkling band across the sky. In the deepening blue-green of dawn, over bare hills, the Ring rose wraithlike; above, in lingering stars, it became a dimly glinting strip, thin, fragile; but in the still-dark west the fragments arched in glory from plain to zenith, whitely glittering, a diamond necklace looped about the planet's throat.

And suddenly President Gaibraith felt tiny and feeble and foreign, and had to fumble for words momentarily—then turned and, with an arm that lifted reluctantly against cruel gravity, indicated the flat uninviting land that emerged and took shape, minute by minute, shyly, out of shadow, sprawling away to a frighteningly far horizon.

Little thrills ran exquisitely through Filmer's flesh as he followed the pointing hand, seeing with fresher sight the miracle proclaimed by the arrival of life in this desolate ugliness.

With calm pride Galbraith said, "For ourselves or for others we have reshaped a hundred worlds—cooled them or warmed them, drained or moved oceans. Raised, lowered or levelled their mountains—altered their atmospheres and changed the shape of continents. And this is our latest success, and even the most blasé must marvel at it; from the earliest attempts at landing, to the completion of the task, we have paid heavily in lives and labour for the transformation of this planet."

For a moment the voice was unsteady.

"It is with full awareness of our debt to those who died and those who lived and worked, and remembering the two centuries of dedicated toil which brought seas and soil and air to nourish life here, that—" Then the voice definitely faltered before the President said, "I proclaim this planet ready for human settlement."

Off came one gauntlet, then the other; the President fumbled with thin fingers at the fastenings of the helmet, lifted it off, and deliberately dropped it on to the soil by the gloves and the silver cannister. And Galbraith stood humbly beneath fading stars with cold breeze blustering in her face.

Something stirred deeply within Filmer; cameras forgotten, he watched the President.

She bent and picked up the cannister, then straightened to face hills that revealed their emptiness to the advancing day. Wavy hair, already betraying hints of grey in its blackness, shivered in the wind. As she turned sideways to him, Filmer's cameras caught her profile against the dawn. Perhaps her lips and nose were negroid; certainly the eyes were European, and the hair might have been handed down by Indian or Asian ancestors in the merging of mankind.

"I mentioned that today is the eight hundredth anniversary of humanity's first flight to another world," she said softly.

The words sounded more natural, more human, now that her helmet was off; for all the vaunted perfection of communicators, thought Filmer, nothing improved upon a voice in the wind of a world.

"The work was hastened in its final weeks to reach that deadline. But another motive lay behind the haste." And the grey eyes that normally remained calmly serious twinkled in a flick of pure humour. "Today is also my hundredth birthday, and the work was hurried to give me this day as a present. Hence my decision to follow my own whims instead of the agenda—surely, even a President can celebrate such an occasion? Thank you, all of you, who have contributed towards this wonderful birthday for me." She looked down at her gauntlets and helmet on the soil.

Rhamsid stood smiling in satisfaction. The idea had been his, and Galbraith's response more than repaid the scramble of the final weeks when everyone had cursed and complained and no one had shirked.

She fingered the silver cannister.

Proudly but tiredly the aliens watched, safe in their armour. This planet was not for them—some, it would scorch, some, it would freeze, and three of them would find its new air and seas more deadly than the previous choking poison and corrosive oceans; humanity's star-scattered allies were as yet few, but they were varied.

President Galbraith stared around her and said wryly, "It might seem strange to proclaim a planet habitable when technicians have lived on it for years during the final stages of its transformation; but it is a time-hallowed human custom for projects to be in use long before their official opening day." She looked up at her ship, green and pale in the

waiting skies. "Now the settlers can come, and grow used to this gravity; the land can be planted, the seas can be filled with fish, and the sky can be filled with birds."

She knelt in the soil and unscrewed the silver cannister and weighed it in her hands reflectively.

Filmer craned his neck, eyes fixed on the glinting metal.

"All the plants and animals and flying things with which humanity shares its worlds," said Galbraith gently, "are descended from those freighted to Mars in the early years, before the Final War left the Earth so horribly poisoned and the Colony so horribly alone." And now her voice was trembling again. "At last, we can begin to repay those gifts and bring life back to Earth."

She tilted the cannister and spilled out a cloud of grass seeds; some blew downwind, but others stuck, and she raked and scuffled the ground over them with her fingers. And the edge of the sun lifted over emptily waiting hills, filling her eyes and face with light, and unashamed tears flashed brilliantly as they fell to the rich dark soil.

When pale sky had swallowed the ship, Filmer summoned his cargo drifter from the hills and prepared to leave. For a moment he stood looking around him at the silent land, while the debris of the moon faded to a spectral wisp in daylight.

"Silly sentimental old woman," he thought, smiling. "But you can't help admiring the way she handled this . . ."

He stared into stillness.

"A small house . . . plenty of space for the kids to grow up in; be a change from crowds—might put a spark in all of us, too; give us a chance to make things instead of accepting them. Maybe Mars is a bit *too* settled and civilised . . ."

Behind him, cameras strutted into the drifter, legs glittering rhythmically in the sun, and folded themselves up on the racks.

Rhamsid touched Filmer's elbow gently.

"Coming?" he asked.

"Eh? Oh, sorry, Ivor. Yes, let's go and get those films on the ship—a hundred-odd planets are waiting to see them. And I'm homesick for civilisation, too—this place'll be the death of me." And Filmer cursed the gravity again as he clambered up into the drifter.

Rhamsid smiled quietly as he followed him. He knew that Filmer would be coming back, with his family, to stay. He'd seen it in Filmer's eyes.

John Ashcroft

The more successful a mutant strain became the more urgent became the necessity to exterminate it. Hence the Eliminator Corps operating for Earth against the colonials.

THE JACKSON KILLER

by PHILIP E. HIGH

Lassen spun the glass slowly in his hand, watching the tiny whirlpool in the wine. He did not really care for alcohol, local or imported, but it served a purpose. One sipped, one looked lonely and one waited.

He glanced casually at the noisy party at the nearby table. One of the women was beginning to wear the look, the kind of look Colonial women wear when they see a lonely stranger.

Colonial hospitality, God bless it, it saved a lot of work.

He caught the woman's eye and smiled. A careful smile which was neither suggestive or arrogant but reserved, friendly and a little shy. He had practised it successfully on many occasions and it would serve his purpose now.

He waited, staring at his glass, his face intent as if lost in thought.

Lassen was handsome in a taughtly aristocratic kind of way, smooth, well groomed and the bleakness in his eyes was only visible in a certain light at a certain angle. A vaguely repellent quality is something an Eliminator acquires and must learn to hide successfully.

"Excuse me," said a voice at his elbow.

Lassen started slightly as if surprised. "Yes?" *One of the men, a big red faced specimen in a shiny suit.*

"Thought you might like to join us." *The fellow was grinning like an ape, close relative, no doubt.* "Saw you were a stranger. Hate you to think the people of Kaylon were unfriendly, plenty of room at our table."

Lassen looked pleasantly surprised, a little emotional but still faintly reserved. The correct reactions in the correct order for a given situation.

"How kind, but I would not dream of intruding on a purely private—"

"Private, hell, on Kaylon nothing is private. Come on, join us."

"Well, if you are quite sure—"

He permitted himself to be led to the table and introduced. They found a vacant chair, filled a glass and pressed food upon him.

He gave a clever impression of slowly unbending and even laughed moderately at some of the jokes but he was sighing inwardly. Colonials were always the same, brash, crude, hungry for an Earth they had never seen and infected with a vague sense of inferiority. Nonetheless he had to bear with them, they were part of the job, just as this alleged place of amusement was part of the job. What better place to start the rot than the principle night spot of a Colonial city. Long experience had taught him that rumour, *his* kind of rumour, would spread like wildfire on a pioneer planet. It was more effective than the most modern forms of communication and far quicker; in a few hours even the remotest posts in the Backlands would have it in detail.

One chose the spot, started the rumour and waited. It was as simple as that.

His orders assured him that the prey was on this boisterous half-developed planet. It was just a question of dropping the right word in the right place and smoking him out.

He had to endure nearly two hours of banal merriment and pioneer 'shop' before the chance came.

"Staying on Kaylon long, Mr. Lassen?" It was Dirk, the red-faced fellow in the shiny out-dated evening dress.

"Not long, Mr. Dirk. Once my business is cleared up I shall be on my way."

"Oh, you have business here? I thought you were waiting ship connections."

"No, definitely business and very important."

"What kind of business, if that's not a leading question?" Hunter, a wizened little man with a limp moustache.

"I am an Eliminator, Mr. Hunter."

"Eliminator!" They stared at him.

"I suppose you mean pests," said Hunter finally. "But we don't have much here, apart from the tiger-rats which will take another hundred years to control."

Lassen pushed his empty plate to one side. "I don't kill pests, Mr. Hunter—I kill men."

Their open mouths and wide eyes echoed the words soundlessly. 'Men—he kills *men*.'

A coldness seemed to fall on their faces, the red lips of the women thinned and, without moving, they seemed to draw away from him.

"Bluntly you are a paid assassin?" The words were spoken by a slender, dark-haired man who had been introduced to him as David Kearsney.

"Not an assassin, sir, a government agent from the Eliminator Corps."

"A flowery title for the same thing, isn't it?" Kearsney's face was cold. "You kill men."

Lassen sipped his wine. "Only a certain type of man—I'm a Jackson killer."

There was a strained silence then someone laughed a little nervously. "My name's Jackson."

Lassen made a deprecating gesture. "You confuse a name with a social malaise." He looked about him. "The work of the Corps is necessary, just as the elimination of pests is necessary."

"Governments, and their agents, can always justify their excesses on reasonable grounds," said Dirk bitterly. "But as far as you rate with us here, you're a paid gun-slinger."

"I have my duty, I do it."

"Oh, spare us *that* one. That was the plea of war criminals back in pre-space days. Today a man must answer to his own conscience, his own conceptions of right and wrong, or did you eliminate those first?"

Lassen looked at them coldly. "I see by your expressions you are unfamiliar with the Proxeta Uprising. I would respectfully suggest that an outline of Galactic history should be added to your school curriculum before passing judgment.

As reasonable men, you must see that capital punishment cannot exist without an executioner."

"You enjoy your work presumably."

Lassen frowned. He had not expected a question like that on a pioneer world. It was altogether too penetrating and savoured slightly of interrogation.

"I object to that remark, Mr. Kearsney." Lassen rose and bowed slightly. "Thank you for your hospitality and good-night." He turned and strode towards the door.

For some time after he had gone, no one spoke.

"An assassin," said Dirk, finally. He looked miserably about him. "I'm sorry, I never suspected—"

"It was my idea," said his wife quickly.

"No one is to blame—God!" Hunter tugged angrily at his moustache. "We all made a fuss of him."

"I think," said Dirk, "someone should see the ladies home, this is something we should talk over."

When they had gone, Hunter sat down and said: "Well?" He looked slightly perplexed.

Dirk scowled at him. "Don't say 'well' like that. The obvious question is—what are we going to *do*?"

"Do?"

"Do about *him*. He's come to Kaylon to kill someone, one of us, we've got to stop him."

"Easy, now." Hunter looked alarmed. "Don't go rushing into things, he's a trained killer. Further, he's a government agent and the law is on his side."

"Did you see him produce anything to prove it?" Dirk was almost shouting. "In any case why did he relish telling us so much?"

"I should think that was fairly obvious." Kearsney was leaning back in his chair, frowning slightly. "He *wanted* us to talk about it. You know how quickly such a story would spread, eventually Jackson—whoever Jackson is—would hear about it. A normal man—and we assume Jackson is a normal man—would either run or betray himself by trying to eliminate the eliminator. It's no good keeping silent about it, in the first place we may not be the first people he's told and in the second the women know. The story will probably reach Jackson before we leave the room."

Hunter rose. "A call to Central Information wouldn't be out of place, would it?" He pushed his chair angrily under the table. "I've never *heard* of the Proxeta Uprising."

"Check on Jackson while you're at it," Dirk called after him.

Hunter entered the booth frowning. Dirk was a good fellow, a reliable friend and all that sort of thing but too damned impetuous. His type of reaction could get them all killed, there were limits to Colonial loyalties. Not that he didn't understand, it was just Dirk's way of rushing things.

He dialled C.I. and scowled at the mouthpiece of the caller. Lassen's words had implied an ignorance they had been unable to refute. How the hell could they be expected to know about an uprising in another part of the galaxy? Terran history and their own ten generation colonisation programme had been all their educators had considered necessary. True, the C.I. memory banks contained the entire knowledge of the Empire but there just wasn't the *time* to use it. Despite a ten generation colony, three large cities and a twelve million population, Kaylon was *still* a beach-head. You had to *fight* to stay on it. Beyond the cities and the roadways, there were still the jungles and, of course, the tiger-rats. In the Backlands you lived behind the barrier screens and if you went out, you used an armoured vehicle.

"Central Information," said a pleasant recorded voice. "Subject, please."

When he returned to his table they looked at him expectantly.

"I got some but not all." Hunter lowered himself into his chair and reached for the whisky. "The Proxeta Uprising was an attempt by ten worlds in sector 72 to set up an independent autonomy outside the Empire. The attempt was opposed for the obvious economic and military reasons and developed into major war which lasted nearly five years." He paused and sipped his drink. "If it's any help, the instigator and self-style leader of the insurgent forces was a man named Howard F. Jackson."

"Jackson, eh?" Dirk pulled at his chin, frowning. "Where does that get us?"

"Nowhere. What we're looking for is not classified under the Jackson heading. When I tried, C.I. simply referred me back to the uprising. As the original Jackson was executed for war crimes over sixty years ago, Lassen, obviously, is looking for someone or something else."

"He could be looking for a symbol," said Dirk in a thoughtful voice. "Something which the original Jackson embodied or represented."

"I formed the same opinion." Hunter drained his glass and lit a cigarette. "Jackson was regarded by his followers as a superman."

"Superman!" Dirk scowled at the other without seeing him. "Here on Kaylon! Surely we should have got wind of him?"

"If I were a superman," said Kearsney in a soft voice, "I'd lie low until I was ready to make myself felt."

Hunter nodded quickly. "Makes sense that, damn good sense."

Dirk reached for the nearest bottle. "And what do we do about our superman, assuming of course, our guess is right?"

"What the hell are we supposed to do?" Hunter's voice was suddenly challenging.

Dirk flushed angrily. "Damn it, he's one of us isn't he?"

"Easy, easy." Kearsney's voice was soothing but firm. "We want to know why Lassen wants him first."

"I couldn't agree more." Hunter was looking angry and nervous. "You can carry this pioneer-unity-stuff too far. It's all very well talking of covering or aiding him just because he's one of us but we've got to *think* first. In the first place we'd be putting ourselves on the wrong side of Galactic law. In the second—and to be frank—I don't fancy tangling with a trained killer. I've done my share of fighting in the Backlands but this is something we might not come out of alive if we don't use our heads."

"You make a good point," Dirk admitted grudgingly. "But it goes against the grain, very much so." He frowned at his empty glass and refilled it. "I suppose this eliminator business is on the level?"

Hunter nodded slowly. "I'm afraid so, yes. I checked C.I. There is, definitely, a government, or more correctly, a military organisation known as the Elimination Corps."

Dirk shook his head slowly. "A murder squad—you can call it that, can't you? In this day and age it doesn't seem possible—what the hell do they *do*?"

Hunter smiled at him twistedly. "The same as Lassen told us—they kill Jacksons."

Lassen lay on his bed, the thin handsome face intent and thoughtful. He was almost fully dressed but his body in the neat, one-piece suit was completely relaxed.

The Eliminator was waiting. He had removed his shoes and loosened his collar but these were the only mild relaxations he permitted himself.

The hotel room, like the man, was neat and uncluttered, with personal belongings in their proper places. The smart carry-case open at the foot of the bed suggested only that he was about to pack and only an astute observer would have noticed the slight bulge beneath the sheet and close to his right hand.

Lassen was thinking about Jackson. Sooner or later the rumour would reach him and the man would react. His name might be Smith, Hereward, Brown, anything, but he would know what the news meant instantly. Only a Jackson would know he was a Jackson because only a Jackson would spend day after day in C.I. absorbing knowledge like a sponge and, in so doing, would learn about *himself*.

When Jackson heard there was an Eliminator on the planet, there were only two courses open to him, fight or run because he would know straight away that hiding from an Eliminator was out of the question. Neither solution was a happy one, however clever you were, fighting a trained man backed by the scientific know-how of an entire Empire was not a job with the odds in your favour.

Escape, on the other hand, was even less attractive. Every planet, however advanced, has only one escape route—the ferry ports. To get off the planet, you had to take the ferry, there was no other way and preventing such attempts was almost too easy. All one needed was a stellar shipping list, the ferry wouldn't blast off until a ship was in orbit. No, in point of fact, a planet had only one escape route, one rat-run, which was too easy to plug.

The alternative, therefore, was to kill the Eliminator and then run; hoping to put light years behind you before his successor took up the chase.

In his time, Lassen had experienced a variety of attacks, most of them ingenious and all doomed to failure. A single individual pitting his skill against the scientific knowledge of an Empire was a task even a Jackson couldn't handle.

Lassen smiled to himself. That was the trouble with Jacksons, they were too smart for their own good and, worse,

most of them were only half-Jacksons. A *real* Jackson would place himself in a position where the chance of detection and subsequent elimination was almost an impossibility.

The neat carry-case at the foot of the bed purred softly and instantly he was tense. His right hand slid beneath the sheet, gripping the butt of the Pheeson Pistol, his left hand twisted the buckle of his belt activating the personal deflector screen.

"Postal service," said a pleasant recorded voice. "A parcel for Mr. Lassen."

Something thudded into the delivery basket.

Lassen eyed the small package warily and without moving. The automatic postal system was more than thorough and would automatically reject explosives but there were quite a number of lethal devices requiring no explosives whatever. He had seen deadly little clockwork mechanisms firing poison needles by compressed air, 'treated' papers which killed the careless by impregnation through the skin . . .

"Postal service," said the voice again. "A parcel for Mr. Lassen."

There was a second plop in the delivery basket.

Lassen stiffened. A tiny pin-point of brilliant light had appeared which began to expand like a minor sun.

At the foot of the bed, the carry-case hissed and began to vibrate slightly. Forces rushed from it, blanketing the heat and the light and crushing them backwards. There was an impression of suffocation and growing weakness. The brilliant light seemed to fall in on itself, turned to a dull red which faded to blackness and a few grey whisps of smoke.

Lassen rose slowly and crossed the room. The delivery basket still dripped hot metal but the charred mass within it was completely dead.

He shook his head thoughtfully. Clever, quite clever, two parcels, probably despatched from widely different points but timed to arrive within seconds of each other. Each parcel was, of course, harmless in itself but deadly when brought together. Altogether it was an ingenious method of getting reactives into critical contact through the carefully vetted postal system.

He nodded to himself almost with satisfaction. This one was a *real* Jackson. Further, and far more important, the reaction had been swift which meant only one thing, he was in the city. He might even have been in the same room,

possibly among those at the table to take counter action so swiftly.

Lassen shrugged. The auto-senders recorded details of their users as a protection against loss or fraud; tracing Jackson or his stooges required only an examination of the records.

He stroked his chin thoughtfully. Routine, once the prey reacted he betrayed himself and that was the end. Not that this fellow wasn't far above average, his reactions had been swift but with precise and careful planning but, like all Jacksons, there was the inevitable weakness. It was characteristic that they would concede a technical superiority because it was the product of a joint effort but never, no *never* the superior intelligence of the operator and that was where they lost the fight.

Lassen lit a cigarette and crossed the room. Having made the first move, Jackson would, at the same time, be preparing for escape. All he, Lassen, had to do was plug the rat hole.

He touched a button. "Hello? Ferry port? Can you give me the date and time of the next stellar liner, please?"

Hunter opened the door of his apartment half-way and hesitated. "Oh, hello, Dirk," he said a little ungraciously. "Something important?"

"It's about Jackson."

"Now look—if you've got some crazy scheme, count me out, we'll have that cleared up from the start."

Dirk scowled at him. "It's merely information—information which I don't intend to talk about in the passage. Do you mind?"

"Oh, very well." Hunter stood aside with obvious reluctance. "Come in." He waved his hand at the nearest chair. "Make yourself at home, I'll dial you a drink—whisky as usual?"

"Thanks." Dirk dropped into the chair and fumbled for a cigarette. "Careful aren't you?"

"I prefer to call it sensible." Hunter passed the drink. "A difference of opinion, that's all." He sat down. "What is this information?"

Dirk puffed at the cigarette. "I know about Jackson, all there is to know, everything, that is, except his identity."

"The hell you do—where did you get it?"

"C.I." Dirk sipped his drink with faint complacency. "I checked the psychiatric section, the master-selector soon cottoned on to what I wanted after a few questions." He gulped his drink and put down the empty glass. "A Jackson is a mutant primary."

Hunter, who had just finished dialling for another drink, nearly dropped the glass. "Mutant! I thought all those yarns about monsters was an exploded myth? This is on the level?"

Dirk looked at him directly. "Absolutely." He picked up the second drink and scowled at it absently. "As Lassen reminded us, we don't avail ourselves of C.I. enough and now that I have I rather wish I hadn't—we're *all* mutants."

Hunter was suddenly a little pale. "How come?"

Dirk shrugged. "The early days of atomics, the unshielded ships when we began to challenge space." He sighed. "According to C.I. eighty-seven per cent of the human race are mutant." He found another cigarette and lit it quickly. "Naturally the most complex part of the body suffered first—the brain. Nearly all of us have—what shall I call it?—abnormal additions."

"I don't feel any different." Hunter laughed weakly and without humour.

"You shouldn't, your abnormality is latent, you are not a primary, that's the difference between you and—Jackson."

"And just what is a Jackson?" Hunter was patently relieved.

"A human being with an incomprehensible I.Q.—in short, a superman."

Hunter frowned at him. "What's wrong with having a few superman around?"

Dirk shrugged. "Unfortunately and, it seems, inevitably, they're all raging paranoids. The original Jackson had a staggering I.Q., incredible qualities both of leadership and organisation and the unshakable conviction he was the Chosen Saviour of Mankind." Dirk shook his head, frowning. "He nearly succeeded in proving it too, his ten planet autonomy nearly licked the Empire."

"And there's no cure?"

"None. Conditioning leaves a drooling idiot which is crueller than execution, putting them in prison is too uncertain to be worth risking."

Hunter picked up his drink, frowned at it, and put it down again without drinking it. "That justifies Lassen or does it?"

Dirk made a helpless movement with his hands. "I'm neither moralist nor philosopher—ten million died in the Proxeta Uprising."

Hunter sipped the drink without tasting it. "So somewhere on Kaylon is a Jackson; now we know the truth I think that lets us out."

Dirk gulped his drink and banged down the glass. "Of course, you'd love that kind of loyalty if *you* were Jackson, wouldn't you? And who the hell am I to argue with you." He strode to the door which opened at his approach. "I can see I've been wasting my time here, perhaps elsewhere I can find a colonist with guts and—"

The door slid shut behind him cutting off the final words.

Hunter frowned briefly, then shrugged. Poor old Dirk, in ten minutes he would calm down and begin to think for himself. Tomorrow, no doubt, he would be back, red faced and apologetic. Somehow you couldn't help liking him despite his tantrums and impetuosity.

Hunter's thoughts turned to more important matters. Dirk's information explained a lot of things, particularly the compulsory time-wasting psychiatric checks which one suffered twice every year. The authorities were not only checking for Jacksons but were determined to nip them in the bud before they developed. Was that why Lawson, Meeker and several more had been taken away for specialist treatment immediately after their checks? He rather thought it might be.

There were still important questions unanswered. What turned a normal into a primary, a potential into an active?

Thoughtfully he pressed the caller button and dialled Central Information.

The answers were detailed but obscure and boiled down to two factors comprehensible to the layman—intense emotional shock and *conditions and environment conducive to paranoia*.

Hunter thought about it. Did the peculiar social order of short-term office applicable to the whole Empire depend on that one factor. One could become a President, Mayor, Minister, General or Executive but *only for six months*. After which the constitution and galactic law demanded that one stepped down for another leader to assume the mantle of power.

It was said that absolute power corrupts and a sustained position of absolute power might be considered as conducive to paranoia. A man entrusted too long with power might come to believe in his own God-like qualities and so develop into a Jackson.

The explanation, of course, might not be the right one but certainly went a long way to account for a dithery administration and infuriating policy changes. The short-term-office was beginning to make sense at last.

Hunter sighed and sat down. He supposed, in due course, he'd hear what had happened and who the Jackson had been. He hoped to God it was not one of his friends. The thought made him warm slightly towards Dirk who, no doubt, was at this moment, trying to bamboozle some other unfortunate into some impractical rescue scheme.

It was a good guess. Dirk was working hard on Kearsney.

"I'm sorry, Dirk." Kearsney shook his head slowly. "I don't think this business really concerns me. Remember, I'm not a colonist I'm an immigrant, I've only been here two years."

"You're splitting hairs, we took you in, made you one of us, you're just making—" Dirk's rather hectoring voice trailed suddenly into silence, he was staring past Kearsney and into the small bedroom. When he spoke again his tone was friendly and almost too casual. "Going on a holiday?"

Kearsney glanced at the half packed cases and said, easily. "Oh those—No, not a holiday, old chap, a Backlands job, some sort of administrative muddle at Salzport."

Dirk lit a cigarette. "The floater for Salzport," he said in a detached voice, "left eight hours ago. There won't be another for ten days."

"Really?" Kearsney's teeth gleamed briefly in an unreal smile. "I shall have to wait then, I must have got hold of an old time table by mistake."

"Yes, you must." Dirk leaned against the wall and stared into the bedroom. "You don't pack stellar cases for the Backlands."

"I do—any objection?"

Dirk exhaled smoke. "Panzer-grubs will eat everything but the locks before you've been there thirty minutes."

"That's *my* worry." Kearsney crossed the room and removed a suit from a wall cupboard. "We'll have a chat

some other time, eh? I'm rather busy just now—do you mind? ”

Dirk detached himself from the wall. “ Sure, even *I* can take a very broad hint.” At the door he turned. “ Good luck, Dave. He'll get no help from us and, if we can find a way of obstructing him, we'll do a damn thorough job.” The door slid shut behind him.

He left Kearsney staring unseeingly before him. So Dirk knew, or thought he knew, exactly how things stood. Under the bluster and impetuosity was an astute and singularly observant man, not many would have spotted those cases and drawn the right conclusions. His loyalties too, although misplaced, were not only understandable but peculiar to colonies in general. He understood clearly how easy it must have been for Howard F. Jackson to weld ten planets into formidable unity. Colonies were fertile soil for insurrection, not because they disliked Earth but by circumstance. Fighting to stay put on a hostile world bred more than ordinary ties of unity, you fought with and for your neighbour and learned that unless you did you both perished. This, of course, bred an attitude of my-neighbour-right-or-wrong and the outsider took the can back.

The ‘ Prodge ’ rang, interrupting his train of thought and he flicked the receptor switch irritably. What now?

“ Taking a trip, Mr. Kearsney? ” The projected three-dimensional image of Lassen looked meaningly at the cases.

Kearsney shrugged, bluff was obviously out of the question. “ You didn't waste any time,” he said, evenly.

“ Tracing your stooges was not difficult.” The projection paused to light a cigarette. “ That was quite a neat trick with the reactives but I'm afraid you won't get another chance. No time. Will you give yourself up or do you prefer to do things the hard way? ”

Kearsney made a small movement with his hand. “ The hard way.”

Lassen smiled faintly. “ Excellent, I was afraid you might disappoint me. Where will it be? ”

“ I'll meet you in the hills somewhere along Eastern Highway at noon, tomorrow.”

“ And you hope to rid yourself of me in a duel? ”

“ That is the general idea.” Kearsney's voice was expressionless.

"Time and date could be significant."

Kearsney shrugged. "You've probably worked that one out for yourself. The ferry lifts at 3 p.m. standard time, if I win I have time to make the ferry."

"And you believe you'll win?"

Kearsney's jaw set stubbornly. "I can hope."

The other stared at him for a long second before speaking. "Hope is a luxury you cannot really afford, Mr. Kearsney."

There was a faint click and the projection vanished.

Lassen climbed into the ground car without haste and rechecked the dials on the additional facia. He had spent six hours on the vehicle and was satisfied that the changes he had made were sufficiently comprehensive to take care of most contingencies.

This Jackson was well above the average and it was unlikely that he would depend solely on his own skill with weapons. An Eliminator thought ahead and was prepared for eventualities before they arose.

Lassen touched the starter button, pressed the thrust pedal and felt the wheel-less vehicle roll smoothly forward on its cushion of air.

After ten minutes driving, his instruments told him that he was being followed. A second vehicle was hanging doggedly on his tail a cautious two miles to his rear.

He shrugged. Colonists, probably labouring under the delusion they could help the fugitive when the shooting started. Well they would not be the first natives to obstruct the course of justice and get themselves killed along with the fugitive they were trying to aid.

The car jerked suddenly as his additional braking system took over and slithered to a halt.

A bare hundred feet in front of him a needle of white flame leapt a hundred feet into the air leaving a wide shallow crater.

Lassen switched the braking system to normal and approached the point of the explosion cautiously. It had been close, his instruments had detected and detonated the booby trap only just in time, another second . . .

Through the window of the car he studied the crater, frowning. The device itself was obsolete but the means gave one pause for thought. Only one explosive would leave a burnished effect in the crater and that was Trachonite.

Lassen frowned. It was difficult to imagine an unstable substance like trachonite being manufactured outside a fully equipped laboratory, yet this Jackson had not only constructed it but compressed the unstable elements into a pill-size device which could be tossed casually from a car window.

Lassen's wariness, if not his respect, increased considerably.

After another three minutes driving, he stopped the car and cut the motor.

He was now deep into the brown boulder-strewn slopes of the hills and a good forty miles from the city. Somewhere within the next two or three miles he decided, Jackson would be lying in wait.

Lassen leaned forward and began to manipulate his search instruments. Within three minutes he picked up a heart-beat and, a few seconds later, a respiration pattern.

Carefully he triangulated the position, picked up the radar-binoculars and studied the rising slopes to the left of the highway. Hum, yes, prone between the two large boulders at the top of the slope. Not a very subtle position really, open ground yes, but a more experienced fighter would have chosen a position with limited approaches which could be booby-trapped. Open ground, although providing no cover, made such devices worthless.

Right, distance one mile, two hundred and sixty-four feet, he'd walk out and take this on his two feet.

Lassen prepared himself without haste. He strapped on the thigh holster, adjusted the buckles of the deflector belt and stepped out of the car, carefully locking it behind him.

He gave no thought to the car which had been trailing him. He had already dismissed them mentally as 'natives.' As such they would not possess weapons worth worrying about, a Corps deflector screen would take care of any type of portable weapon. They might, of course, attempt to sabotage his car. Well, they could try. Kicking aside the charred bodies when he returned would not worry him unduly.

There was a sudden thud and some sort of missile kicked up a spurt of dust at the side of the road.

Lassen shrugged indifferently, left the road and began to walk up the rocky slopes. There was no hurry and in any case he had to wait. The Pheeson pistol, although limited in range, could be fired effectively from inside a deflector screen.

At five hundred feet the weapon would make short work of the Jackson and the huge rock behind which he thought he was hiding.

A bullet slapped suddenly into the screen and went whining away into the distance.

Lassen smiled with faint contempt and paused to light a cigarette. He always rather enjoyed this part. In a few minutes no doubt Jackson would switch his weapon to automatic and fire long frantic bursts in a futile effort to stop him.

Another bullet slapped into the screen, then another and another.

At the tenth direct hit a compact mechanism strapped to his wrist began to chatter shrilly urgently.

A little stiffly Lassen raised his left arm and stared at the instrument, a coldness seemed to be rising upwards from the pit of his stomach. It wasn't possible, it just wasn't *possible*.

The tiny finger of the dial refuted the denial with precise indifference, it was already quivering uncertainly on the red danger line.

The coldness in Lassen's stomach seemed to rise upwards and embrace his heart. The bullets were 'rigged,' they carried some minute energy-sapping device which drew power away from the screen every time they hit.

With dull resignation Lassen realised he had passed the point of no return. The prey was still beyond the range of his Pheeson pistol and he would be cut down before he could run back. There were no rocks behind which to take cover while he made adjustments and circuit changes to strengthen the screen—

He broke into a stumbling run towards the distant rocks, knowing that with this Jackson he had lost.

Dully his mind tried to find reasons. There was *nothing* capable of breaking a Corp deflector screen, if there was . . .

He was only beginning to understand when the twentieth bullet penetrated the weakening screen and exploded in his lungs.

Kearsney walked slowly down the slopes and stood staring down at the still body.

In death Lassen seemed to have lost his arrogance and the face was calm and peaceful like that of a sleeping child.

Kearsney shook his head slowly, only half aware of shouts in the distance.

"Wake up, Dave, over here."

He turned slowly. On the distant road a figure stood waving by a dilapidated ground car.

"Over here—over here. We can get you to the ferry with minutes to spare."

When he reached them, he saw that Hunter was crouched over the wheel and that Dirk was holding the door open in readiness.

"You killed him." Hunter's voice was awed. "You took an Eliminator."

"We'll destroy both cars later," said Dirk. "If someone follows up on the next ship they'll have a hard job deducing the real facts. No one on this planet will volunteer information, you can sleep easy on that point."

Kearsney heard himself say: "You'll have to blow up Lassen's car, it's probably booby trapped."

"We'll fix that—get in."

Kearsney glanced back once as the car rolled swiftly down the winding road. "You couldn't arrange a quiet burial for him, could you?"

"Burial!" Dirk stared at him, his expression almost outraged. "What the hell for? We don't want to draw attention to this business when another killer comes. In any case, panzer-grubs will have had the body, including the bones, inside twelve hours. Burial!" He snorted. "What *for*?"

"He died in the line of duty, isn't that enough?"

Dirk laughed harshly. "When I start thinking of last rites for murderers I'll be going soft in the head."

Kearsney shrugged. He wasn't getting through and never would. He supposed in a way it was understandable, the outsider saw only one side of the coin. Yet, could they but realise it, up there in those hills lay the body of a dedicated man or, if you preferred it, a hero.

A man whose dangerous business it had been to hunt down the intellectual wild beasts who had somehow evaded the careful psychiatric checks and risen later to threaten the structure of society.

Wild beasts which local authorities were ill-equipped to handle and could not subdue without the loss of many good men and countless innocent people.

Wild beasts who, in the last eight hundred years, had presented an account for eighty-seven million lives.

He realised suddenly that the car had stopped and Dirk was helping him out.

"Told you we'd do it, you've got sixteen minutes."

Kearsney glanced back at the distant hills. Yes, a hero, selected, as all Eliminators were selected, not for their cold blooded capacity for killing but for their *dedication to the race of man*.

An Eliminator knew he was doomed from the moment he signed the necessary papers.

There was no short-term-office in the Eliminator Corps for, after the first few killings, he was too mentally shocked to retire with his own conscience.

After a few more, he had passed the point of no return and become to believe in his own God-like immunity.

Throughout the Empire there was no task so demanding and no walk of life *so conducive to paranoia*. Inevitably the agent moved from latent to positive and became as those he was ordered to destroy.

The Corps, who kept a tight check on its personnel, knew when an agent's usefulness was past and he was given what appeared to be a routine assignment.

Dully he heard his own voice say: "Thank you both, thank you."

Yes, an assignment which seemed routine but was actually a decoy job. A job like this one with someone waiting at the other end.

"Yes, yes, goodbye—goodbye—"

The Jackson killer turned slowly and walked towards the waiting ship.

Philip E. High



Of all the safeguards to human life being thought up to protect Man in Space, great thought will have to be given to protecting him from that great scourge — cosmic dust.

SPACE BULLETS

by **KENNETH JOHNS**

There can be no sounds in space—yet the first spacemen will hear eerie tappings and rustlings and whisperings on the hulls of their ships and perhaps they will be forgiven if for one frightful moment they imagine that the souls of the dead are clamouring for admittance.

As though hail or sleet or miniature machine guns are spraying the hull, the sounds will go on and on endlessly, a pitter-pattering of invisible feet, barely audible, or the ominous *pingg* of something more solid—just outside the ship's hull there in the void.

The spacemen will not be imagining the noises. Any object in space is under continual bombardment by irregular streams of meteoric material. Watching the skin of the ship the crew will see dancing, glancing, bright flashes—tiny novae—of light coinciding with each impact. They will be under fire from micrometeorites, the dust bullets of space.

These insignificant grains cannot be dismissed as just ordinary dust, for, with speeds of up to 45 miles a second, they are loaded with kinetic energy. A large micro-meteorite, the size of a pinhead, will blast through an eighth of an inch of aluminium. Luckily such giants are relatively rare. It is the very fine particles, invisible to the naked eye, that may turn out to be the one hazard that was under-estimated in spatial planning.

The larger particles will puncture a hull, smash a face-plate, cut an electrical circuit or slice through flesh as neatly as a scalpel—the risks from them will possibly be of the same order as those faced by a driver in urban traffic.

More subtle but none the less dangerous in the long run will be the continuous erosion and pitting of the exterior of a ship, a fine sandblasting effect gradually damaging optical surfaces, wearing away radio and radar antennae, altering the radiative characteristics of cooling surfaces and scouring away the very hull itself. As a wind, it will have a measurable thrust on large areas such as light sails and satellite solar mirrors. Remember that *Echo I*, the hundred feet diameter aluminised balloon, is losing an estimated $1\frac{3}{4}$ square inches of its surface every day, and translate that into terms of damage to spaceships of the future.

These affects will probably be unimportant on a simple jaunt to the Moon and back ; only when exposures of a year or more are considered will it be important to prevent the worst features of space corrosion, preferably by attention to the design of the ship's exterior.

Most of our knowledge of space dust is indirect. Five million tons a year, a thousand tons a day, are swept up by the Earth to create a fall-out that is as old as time. Earth is a giant sponge with her gravity sucking down the particles, so that a stabilised satellite in an orbit close in has only one side exposed to the impacts. Since much of the dust is confined in streams sweeping through the Solar System, a volume of space with a very much lower density of dust than is usual is shadowed by Earth.

Evidence is accumulating that Earth is surrounded by a dust bowl of electrically charged particles orbiting around us, the densest portion of the bowl being a mere 80 miles up, gradually thinning out to disappear at a height of 8,000 miles.

A limited number of estimates of the amount of meteoritic material swept up by Earth are available. The sediments from the floors of the ocean deeps, particularly those far from land, are rich in these deposits from space. Cosmic ferrules, as they were called, were first identified in deep sea sludge in 1876. Since they are tiny globes of iron-nickel alloy, they are ferromagnetic and can easily be separated from terrestrial sediments by a magnet. A recent investigation using piston corers to take fifty feet long samples through the sediments has reported its results from deep areas in the Central Pacific where solids build up on the bottom at no more than a sixteenth of an inch every thousand years. The bottoms of these corers represented 7.5 to 15 million year old relics of prehistory.

Cosmic ferrules were found throughout the cores, a maximum of 2,000 iron-nickel particles being present in a pound of sediment. The numbers were not constant; they varied considerably with depth, and always more were found near the surface of the seabed.

This can only be explained by smaller meteor falls or higher terrestrial sedimentation rates in the past.

A by-product of the U.S. Energy Commission's study of radioactive fallout has been an estimate of the amount of meteoritic material normally present in the atmosphere and hence a rough figure for the actual fallout from the upper atmosphere. Air was sucked through filters on mountains in Hawaii and, after examination for radio-activity, the filters were analysed for their nickel content. Assuming that meteors contain an average of 2.5 per cent nickel and that terrestrial dust contains very little, it was calculated that there are 0.00000006 grams of meteor dust in every cubic foot of our air. It was from this calculation that it was estimated that 5 million tons of meteoric material are deposited on Earth's surface every year.

Russian and Australian scientists have been claiming that the meteor dust acts as a nuclei for the growth of ice crystals in the upper air and that these, under certain conditions, seed clouds and cause rainfall. It appears that heavy rainfall occurs twenty-one days after Earth runs into a meteor cloud. Attempting to check this theory, Japanese scientists analysed the nuclei of snow; but found mainly clay dust. However, terrestrial dust should not be present above the tropopause, 5 to 6 miles up, and recently three U2 aircraft have been filtering the thin air 12 miles above Earth. Preliminary reports show that there are a considerable number of active nuclei for ice crystallisation at that height. It is planned to extend the experiments by balloon to an altitude of 20 miles and to analyse the collected dust for its nickel content.

Meteoritic dust in space creates the phenomenon known as the zodiacal light. This is a faint glow seen in the night sky near the Equator, appearing above the eastern horizon in the early morning and the western late in the evening. Great care taken in obtaining a series of spectrograms—each one exposed an hour a night for a week at Chacaltaya up in the clear Andean air—has at last accounted for this light.

It was found that the zodiacal light contains the same Fraunhofer lines as does sunlight, explicable by sunlight being scattered by dust in space, as was first suggested by Cassini in 1683. At the same time there was no evidence to suggest that light was being scattered by electrons in space to give a continuous spectrum. This points to there being little gas in interplanetary space since any atoms would soon be split into electrons and positive ions by the outrushing solar radiation and swept out of the solar system by the pressure of high energy radiation. Ion traps in a Soviet moon-probe supported this by finding very few stationary ions far out from Earth. There was however a geo-corona around Earth extending to 15,000 miles composed of hydrogen nuclei from water vapour in the terrestrial atmosphere split by ultraviolet light.

The use of rockets and satellites now enables a direct count of tiny particles hitting a known surface area to be made, and already many of the satellites have been instrumented with microphones to telemeter back results of impacts on the skins. At present the range of the results is very wide, differing by a factor of a million for density in space and by ten thousand for energies of the impacts. The best figure obtainable is one hit on every square foot in five minutes near Earth. There is need here for changes and improvements in methods of calibration of the piezoelectric microphones.

One strange result appeared—impacts on re-entry occurred at relatively low altitude. This is now thought to be due to a shell of dust in orbit around Earth, thickest at a height of 80 miles. It is probable that these fine dust particles are electrically charged by the Sun's ultraviolet light and by their passage through the Van Allen belts, an electrical charge enabling magnetic fields, terrestrial or solar, to affect their orbits.

Whilst the scientists are groping for more information and new facts the would-be spaceman has to tackle the problems raised. What can be done to minimise the hazard of the space bullets?

Firstly, we need to know much more about them, their constitution, mass distribution, velocities and occurrence in streams.

Secondly, it is essential to find out more about their effect at collision at these enormous velocities; speeds of up to 45 miles per second with the spaceship's speed to be figured in the

equation. What will they do to spaceship constructional materials?

A little work has already been done at speeds up to 5 miles per second by firing pellets into lead and duralumin blocks. The craters formed were spherical and, because the forces involved were very much greater than the strength of the materials, were very similar to drops of fluid falling into water.

At the highest speeds, of 5 miles per second, steel pellets created a brilliant flash of light and a spray of fine particles which shot out sideways. The target zone became heated, both the target and the shot flowing as liquids. At the same time a pressure wave radiated from the point of impact.

Very hard aluminium oxide spheres capable of withstanding one million gravities have now been made ready for the next step—speeds of above 5 miles per second. They will be accelerated electrostatically along linear accelerators or fired by the shock wave of an exploding gas mixture in a shock tube to strike metal and plastic sheets—under vacuum conditions.

The target zone will probably be vapourised. The depth of the crater may well be about four times the diameter of the particle. This will evidently be a most important point to check.

The rate of erosion of a satellite's skin will have to be measured in orbit. A suggested method is to arrange a thin radio-active beta emitter as a surface to the outer skin which will be monitored by a Geiger tube inside the satellite. As the outer skin erodes under bombardment the amount of radio-active material will diminish and thus the number of counts per second recorded on the Geiger tube will drop. From this rate can be calculated the rate of loss of the surface.

One point to be considered carefully is the fact that the wave from the impact zone travels through a sheet of material and causes spalling on the opposite side. This can be observed by firing an airgun at a galvanised dustbin and then inspecting the inside of the bin. Even if the slug has not penetrated the steel, bright flakes of zinc coating are shot off the interior surface. Such spalling can be prevented by bonding soft plastic or rubber to the internal surface to dampen and absorb the wave energy.

Meteor bumpers around a ship—a second, thin hull designed to absorb the energies of micrometeorites—will be a must. The idea of meteor bumpers has been canvassed for some time in literature on spaceflight; it now appears that its most impor-

tant function will be in repelling dust—hardly what its inventors originally had in mind. The composition of meteor bumpers to be fitted to spaceships, their thickness, whether they should be laminates of soft materials or not, will all have to be determined. It's a waste of money to put up a hull capable of withstanding meteorites for a hundred years if the ship herself is likely to have a lifetime of only ten.

On the other hand, it will be fatal to build a thin walled ship which turns into a colander when she has carried her crew only halfway to Mars.

A compromise must be reached.

Dust particles in space are not permanent. They are slowly destroyed by hydrogen ions shot out from the Sun and this rate of destruction should be determined both in space and under lab conditions for portion particles with energies ranging from one hundred to one million electron volts, since this is another mechanism which will slowly but surely eat away the skins of ships.

Perhaps, like the ancient Greeks with their false keels by which their triremes were run up on to the sand without damage to the true keel, spaceships will be equipped with detachable meteor bumpers which can be replaced when worn out.

The problems involved in keeping television and optical lenses clear may be solved only by closely fitting shutters which will be opened only for as long as the instruments are used, and by an ample stock of replacements. Against the danger of the lonely giant meteor—the size of a pinhead, remember—maybe the chances quoted, that of modern urban road traffic accidents will be too high to be acceptable. Perhaps mutual lessons may be learned and as the accident rate comes down so the protection against meteors will rise. The two are not so unrelated as it may at first appear.

Whatever is finally decided on the trips to the Moon, those to Mars and Venus are going to demand rigorous trial and rejection of devices until a good chance of survival for the crew is obtained.

The more facts turned up by space research today indicate that we will have increasingly to rethink our approach to the design of spaceships. No point must be overlooked, nothing is unimportant when man ventures out into alien space armed only with his own foresight.

Kenneth Johns

Departing from his usual background of deep space (which he does so well) Alan Barclay presents a neat robbery-and-blackmail story of the days when banks are computer controlled.

H A I R C R A C K

by ALAN BARCLAY

At six minutes past eleven on Monday, sixteenth April, 1994 a Mr. Oliver C. Fairweather emerged from the Doncaster branch of the Central Counties Bank. He emerged without haste, paused on the top step to draw on gloves, and looked around the sunlit street, smiling gently. He had very good reason to smile, for he had just drawn out of the bank one hundred and forty-five thousand five hundred and forty-eight pounds. He carried this unusually large sum of money in notes of large, medium and small size in the pockets of a neat new gaberdine raincoat which was draped over his arm.

After looking around for a moment he strolled across the street and round towards the railway station. In the booking-office he bought a ticket, then mounted the stairs to the landing-platform. Here the morning 'copter for London was already waiting with rotors spinning idly. He entered, chose a middle seat, settled himself, and four minutes later was five thousand feet aloft.

At about the time the helicopter reached its prescribed altitude and worked up to cruising speed towards London, the Central Bank computer had a brainstorm. On the 'Current state' indicator in the Manager's office it printed 'Withdrawn: One hundred, forty-five thousand, five hun-

dred and forty-eight pounds.' Immediately afterwards it displayed in red: 'Cancel.' Then it printed 'Five hundred and forty-eight pounds.' Next, after an interval of blank, the original figure recurred for an instant. It repeated all three statements with increasing speed until the figures became an indecipherable blur. Finally there was a flash and the indicator went dark. The pay-windows of the cashier-booths slammed shut. Bells began to ring. Red lights flashed here and there.

The manager who was alone in the place at the time, dashed from his room into the public hall carrying a superannuated and slightly rusty revolver. There was not a single person in the place.

After a period of indecision he closed and locked the doors of the bank and got on the line to London.

The fact of the matter was that although the Central Counties Bank managed to retain an air of sturdy vigorous independence which pleased the farming community in the neighbourhood, it had been for about twenty years nothing much better than a branch of the Bank of England. Its computer was not a real independent computer at all, but an appendage of the big bank, linked to it by electronic controls. It was unable to take any decision without referring to its Big Boss in London. The manager was in much the same position. Worse, for the Big Boss computer in London took some account of its computer appendage, but none at all of the manager. Between you and me, the manager was nothing more than a front. He advised old ladies about investments occasionally, and made speeches at Rotarian dinners.

By the time the 'copter containing the gentleman whose name was not Oliver C. Fairweather was slanting down towards the Thames Embankment landing platform, the computer in the Doncaster Bank was assured that Big Boss computer at head office was investigating. It recovered from its hysteria. The steel shutters rose again from the windows communicating with the robot cashiers. The red lights stopped flashing. The main doors opened. The manager put his revolver back in the drawer. An old lady came in to deposit six pounds ten. Everything reverted to normal.

Mr. Fairweather stepped out of the helicopter, gave up his ticket at the exit, and passed through. A station policeman closely scrutinised him, not because he looked or acted

suspicious, but simply because it was the policeman's job to do so.

Mr. Peter Frobisher was a private detective. A high-class detective. He was frequently employed by insurance companies when they suspected fraud, and by industrial concerns with trade secrets and patented devices to protect. This time he was about to be employed by the Bank of England. He was not actually being interviewed by the director himself, but by someone pretty far up the ladder in the direction of that position.

"You see," the Deputy Director explained, "the system is thief proof."

"Seemed to be thief-proof," Frobisher corrected, gently.

"Is thief-proof." The other man looked irritated. "It has to be."

"Tell me why you think so?"

"Well, you see," the Deputy Director explained, still looking irritated, "when a customer puts his cheque down at the cashier-window, the information on the cheque is read off by a scanner suspended above which is linked to the central computer. The computer verifies the signature and checks that the customer has sufficient funds. If this account is with another branch, or indeed with another bank anywhere in Europe the verification of the amount of credit balance and of the signature can be made in a few instants via the master computer here in London. When this has been done—it takes only about two-thirds of a second—the computer releases the sum required and debits the customer's account."

"Instantly?"

"Within a second, anywhere in Europe."

"How does the cash reach the customer?"

"It comes out through a chute, made up in notes as requested by the customer in the margin of the cheque."

"How much did this character—Fairweather you said—withdraw?"

"One hundred and forty-five thousand five hundred and forty-eight pounds," the Deputy Director told him sadly.

"What was his credit balance at the time?"

"Five hundred and forty-eight."

Frobisher nearly laughed, but restrained himself when he saw the expression on the other's face.

"A hundred and forty-five thousand's a big sum for a branch bank to carry," he remarked instead.

The Deputy Director looked puzzled. "I don't understand you."

"Well," Frobisher amplified, feeling as if he was about to tell his grandmother how to suck eggs, "how did our criminal know this branch carried that amount in notes?"

"But it doesn't," the banker protested, then his face cleared. "Good heavens!" he exclaimed, "you're twenty years out of date. Banks don't carry notes any longer, didn't you know? The computer at each bank prints them off from blank plastic as required, and passes a record to Central Computer. The computer at whatever bank they're re-paid checks them against the record, adjusts credits and debits, and destroys them. Haven't you noticed there've been no forgery attempts for fifteen years? No bank hold-ups either?"

"Central Computer's likely to be a busy little computer," Frobisher suggested.

"If the whole population of Europe spent every moment of its time drawing out notes and repaying them back in, the computer could handle the traffic and still have capacity to do its other tasks," the banker assured him proudly.

"How does it know that forgeries aren't being passed in?"

"A pattern of radio-active particles is shot into each note. The number of the note and its pattern are recorded. The pattern is varied from note to note in a random fashion."

"Seems a very water-tight system," Frobisher admitted.

"Ah, but let me see . . . Suppose I broke into your vaults and got at the printing-press—then—"

"Impossible. There's no door to the vault. The press is completely walled in except for a small slot admitting raw plastic for note-making."

"Suppose I tunneled in, then?"

"It would take you a week."

"Suppose I did," Frobisher persisted, "and then by messing about with the printer's circuits, instructed the press to run me off a couple of million or so, what then?"

"What then?" The banker pondered. "In the first place, if you succeeded, the million would be delivered into one of the cashier-cubicles up in the public part of the bank, so you'd have to break into that part as well, to collect it. But that's not the chief obstacle. The printer in any branch bank is merely an extension of the Central Computer, controlled

by it, and checked by means of feed-back devices. So what would you have to do? After breaking into the vault—one week's work, during which you must avoid making any vibration or noise."

"Why?"

"The computer will detect noise or vibration and will signal it to Central. But suppose you get over that. Then you must send a meaningful signal to Central. That's to say, you must send the identification signal of a client, followed by a signal saying he has paid in two million. Then you must repeat the identification signal followed by a signal meaning that he wants to take it out. No, no, that's impossible."

"Isn't it feasible to cut the land-line with Central?"

"There's no land-line," the banker interrupted. "It's VHF tight-beam stuff from the roof."

"Then suppose I screen that off, turn the printer by hand, and let it spew out as much as I want?"

"Look," the other insisted, "the printer's in a little cell into which you could not get. Furthermore, unless it's under control by Central, it won't print anything that makes sense. It won't even cut notes to the right size."

"As you say," Frobisher admitted, "it's thief-proof."

"Exactly."

"So thief-proof that a stranger with an account of five hundred and forty-eight pounds walks in, presents a cheque for one hundred and forty-five thousand, gets payment, and walks out with it."

"Quite impossible," the deputy Director repeated sadly.

"Yet it's been done. Tell me why you've engaged me to deal with this instead of the police?"

"The public knows the system's thief-proof," the Director pointed out. "They've got confidence in it. The confidence has been building up for quite some years. Besides this, the underworld has confidence in it too. It's fifteen years since any crook attempted to bust a bank. We want to retain the public's confidence, and we want the crooks to keep on thinking banks aren't worth their attention."

"It surprises me the news-hounds haven't heard of this," Frobisher mused.

"Well, you see, banks aren't news any longer. The Press don't keep an eye on us any more. Secondly, the incident lasted only a few minutes, and only six people got to know of it: the Director, myself, two computer supervisors, a technician, and you."

"Plus the branch manager."

"Not him. He's been told there was a computer fault."

"Plus the computer," Frobisher suggested.

"Yes, the computer."

"Plus the crook."

"And the crook," the other admitted.

In the spacious days towards the end of the twentieth century, passports were non-existent, official questionnaires and police check-ups were not tolerated. Nevertheless, an unobtrusive yet efficient kind of supervision was exercised by governments for purely benevolent reasons—to keep tabs on amnesia victims, missing husbands, absconding cashiers, eloping teenagers and youngsters who ran away to smuggle themselves aboard spaceships.

So Frobisher supposed at first that he would catch up with Mr. Fairweather fairly easily. He did not suppose that a man who could plan an ingenious robbery would necessarily cover his trail with equal skill. Human beings and especially criminal humans tend to be clever in patches.

It turned out that Fairweather's cleverness was not of the patchy sort. He was traced to London without difficulty. The policeman on duty at the time described him accurately. But after leaving the helicopter terminus he vanished. Hotels, bus stations, railways terminals, airports knew nothing of him; or to be exact, were more positive than that; they tended to be confident that no person answering his description had passed through their hands.

The truth was (this was not learned till much later) Fairweather did not take a train from London. Nor a bus. Nor an airplane, nor a helicopter. He did something quite unique for these times. He walked. He walked all the way to Dover. It took him five days to do this, and then he got himself across to France in a little sailing-boat.

Realising that the thief had left no trail behind, Frobisher chewed his finger-nails for a while, and in due course came up with an idea.

Fairweather was in possession of more than a hundred and forty thousand pounds in notes. Presumably he used portions of this money to live on. Indeed, he was probably living at a high rate and expended sizeable sums of it at frequent intervals. If so, a steady trickle must be finding its way back

into the banks. Frobisher recalled that whenever a note was printed off by a branch computer a pattern of radio-active particles was imposed on it and that pattern was recorded at Central Computer. That record was referred to later when the note was paid back, to verify its authenticity.

So the Computer knew the identity of the notes paid out to Frobisher; it could recognise them when they were returned; more important, it would learn where they were returned.

A promising line of thought, this, so far as it went, but it did not go far enough, for the Computer kept its collected information to itself. It was a Computer with inclinations towards taciturnity. It required much careful figuring, plus an equal amount of very delicate engineering, and in addition, of course, the expenditure of time and money to tap the Computer's memory at the correct points, and to link up its information—collecting nucleus to an external record. After that the Computer began to tell some of the things it knew.

For example, it reported one day the payment into a Paris bank of twenty pounds of the stolen notes. The next day five. The day after that nothing. At the end of a week, thirty pounds. At the end of another week another thirty pounds.

"He's staying at some swell hotel in Paris," Frobisher deduced. "Thirty pounds is his weekly bill. Let's go search the Paris hotels."

Frobisher got to Paris the next morning. There are lots of hotels in Paris and even some of the small ones charge high. It took him a week to check them all, and he failed to catch up with the thief. During that week the latter paid out a sum of twenty thousand pounds, another of fifty thousand, and one of two thousand. For a while after that there was nothing reported. Frobisher returned to London.

"He's investing his money," the Deputy Director deduced. "We might find out something." He set enquiries afoot to discover the name of the person who had bought twenty thousand shares of one sort and fifty thousand of another on certain dates. There was a little difficulty getting this information, but it was eventually disclosed that a certain John Smith had bought twenty thousand shares in French Saharan Oil, and fifty thousand in a company which was about to put an atomic-powered land-car on the market, on the dates in question.

So the man they sought was calling himself John Smith.

"We'll get him," Frobisher promised. "The five thousand was almost certainly spent on buying transportation. What can one get for five thousand?"

"Private helicopter," the Deputy told him promptly. His wife was running a wifely campaign to persuade him to buy precisely that.

The Computer reported the paying of some notes into a bank in Oslo. Frobisher went there at once, after arranging to have the big Computer's subsequent disclosures sent to him. But nothing more was reported from Oslo—not for a couple of weeks, that is, when there was a payment of ten thousand pounds made. This proved on investigation to be for the purchase of Norwegian Transpolar Rocket shares. Again the purchases were made in the name of John Smith.

From Stockholm reports of payments of hotel bills and other small amounts, and the purchase of more shares.

After that reports came from Trondheim.

Frobisher thought this was Mr. Smith's fatal mistake, for Trondheim is quite a small town, small enough so that everybody is likely to know everybody else's business.

Frobisher went there and began to enquire whether an English visitor with a French-made private helicopter had recently arrived. He discovered that a new Citroen helicopter had been serviced the day before at the only aircraft garage in the town.

The owner of the helicopter was an Englishman calling himself Fairweather, who had rented a bungalow in the neighbourhood for the summer. The bungalow was five miles away along the fjord side.

Was Mr. Fairweather alone? No. As a matter of fact, he had a companion with him. The companion was a young lady of about twenty-five who spoke Swedish—not Norwegian—with a Stockholm accent.

This did not surprise Frobisher at all. Every criminal makes mistakes, and as often as not the mistake which leads to his arrest is a woman. Mr. Smith-Fairweather had been doing nicely and keeping ahead of the pursuit so long as he stuck to the big cities and moved once a fortnight. But it now seemed that he had met up with an agreeable companion in Stockholm and had yielded to the temptation to take her away to the peace and quiet of the country.

Frobisher drove the five miles out to Smith-Fairweather's bungalow in an old-fashioned petrol-engined land-car. He left the car on the main highway, which was nothing much better than a lane, and walked down a sandy rutted track to the bungalow.

He checked that his gun was in its holster under his arm before he walked round the end of the bungalow, although he did not feel that this was a shooting business. There had been something elegant and civilised about the whole affair right from the start.

The front of the bungalow faced outward across the fjord. There was an open shed over to one side under which a beautiful little helicopter nestled with blades folded. A white twin-hulled sailing boat was drawn up on the beach. A Norse-goddess type of young female with long elegant legs and wearing nothing very much in the way of clothes was strolling up from the beach rubbing her blonde hair with a towel.

Mr. Fairweather—Frobisher had been thinking of him recently as Mr. Smith—was sitting in a chair on the veranda. Beside him on a small table were a number of glasses and bottles.

No burst of tommy-gun fire greeted Frobisher's arrival. On the contrary, Mr. Smith waved to him amiably and called:

"I heard the noise of your car coming round the end of the bay. Come and have a drink."

Frobisher, after a quick glance round to make sure there was no risk of an accomplice jumping him from a corner, or blasting him down with a machine-gun from a window, accepted the invitation. He sat in the deck-chair indicated by Mr. Smith, moving just a little so that he was in a position to go into action at high speed if necessary.

Mr. Smith appeared to be a very pleasant fellow. He was about forty-five years of age, nearly bald. What hair remained was thin and flaxen and straggly. His face was smooth and pinkish-white. A man who had lived his life without much stress or anxiety. Good-humoured. Not an intellectual perhaps, but certainly intelligent.

"Have a drink," he suggested. "Have some of the local fire-water they call aquavit, or if you haven't a chromium-plated stomach try this lager."

Frobisher chose the lager. Smith poured him out a generous beakerful. As he was so engaged, the girl passed across the veranda. She said something in Swedish and ruffled Smith's hair affectionately as she went indoors.

"You're a detective, I imagine?" Smith asked. "A private detective, naturally?"

"Correct," Frobisher admitted, "but why d'you say 'naturally'?"

"The bank wouldn't want publicity. If the world knew their fool-proof system could be busted . . ." Smith smiled.

"So you admit you pulled the job?"

"Of course," the man agreed. "Nothing to be gained at this stage by denying it."

"Well," Frobisher said, "that certainly cuts out a whole lot of cross-talk. So let's take it from there. Now we've caught up with you . . ."

"Not so fast, Mr. You didn't tell me your name?"

"Frobisher."

"Thank you. Not so fast, Mr. Frobisher. It's not true you caught up with me. I came to a halt to let you join me."

"You're telling me you planned this meeting?" Frobisher asked scornfully.

"Oh, yes, indeed. I knew the forces of law and order must overtake me sooner or later, and I chose to have them do so in my time and my place. Consider the advantages of this spot. Norway is a sparsely populated but highly civilised country. You couldn't possibly kidnap me from here without the fact being observed, and you can't take the loot off me by force."

"Why not?"

"It's at the bottom of the bay," Smith explained, waving his hand out towards the water. "It's fifteen feet below low-water mark, under a rock which only I can recognise. So you see, you can't rush me."

"That's unfortunate," Frobisher said. "Unfortunate for you, I mean. We want to avoid publicity, so my orders are to suggest you give back the cash voluntarily. If you won't the law must take its course. I can call up the local police on my car radio and have them here in half an hour. It'll only take a couple of days to arrange extradition."

"I'd recommend you to consider first of all whether doing this will serve your clients' best interests," Smith replied, smiling.

Frobisher had been studying him carefully since his arrival. The man seemed genuinely untroubled; completely at ease; relaxed. The longer Smith continued to appear relaxed, the more Frobisher grew tense and uneasy. There was some factor here he had overlooked, that was evident. Before he could ask what it was, Smith-Fairweather told him.

"Look son," Smith said amiably, "I got that money from the bank by a simple trick, but the point is, neither you nor the bank nor anyone else knows the trick. Right eh? Now, it's not exactly a trick that any child could play, but there are thirty or forty people in Europe who could do it if they were told how. And brother," he said softly, "if you put me in jail, you bet I'll tell 'em how."

Frobisher thought about this. Hearing the threat put into words, it did not surprise him very much. Somewhere at the back of his subconscious an idea of this sort had been lurking ever since he took the case.

"We can alter the circuits," he protested feebly.

"Which circuits?" Smith asked. "You don't know which. And if you did, you'd have to alter every circuit in every bank in Europe. You see, the banks have built themselves something big—really big—too big. A monster with tentacles spread all over Europe. An enormously complex, armoured, inflexible monster."

Frobisher reflected some more.

"We'd get you in jail before you could talk," he proposed.

"I can talk in jail, can't I? And what I say in jail will get around."

"In short," Frobisher summed up, "you say to the banks they must leave you alone, or else. They'd never agree. They'd think it intolerable that a crook should get away with a crime, then sit and laugh at them. Besides, you might do it again—or sell your secret to another crook. No. They'd put you in jail and put an armed guard round every bank in Europe."

"They could at that," Smith agreed. "But I have a proposition to make which offers an honourable way out for the banks. For an agreed payment I'll sell them an explanation of the defect in their cashing-out system. You might say I'll act as security adviser to them."

"For how much?"

"For one hundred and forty-five thousand pounds plus expenses," Smith offered coolly. "Cash in advance."

Frobisher began to laugh.

"Very much cash in advance," he conceded.

Mr. Smith-Fairweather leaned forward and poured him a drink. The smooth perfection of the plot—for he was sure that this offer was part of it and had been foreseen from the start—struck him with compelling force. He could not see that there was a single thing the banks could do to make one hundred per cent sure that the trick would never be disclosed, but if they accepted the offer Smith was making they would be in a position to alter their checking and paying-in circuits to make the disclosure useless, or so Smith was implying.

Frobisher laughed again.

"I think they'll accept that," he admitted. "I think they'll have to. Even a hundred and forty-five thousand's a lot cheaper than putting armed guards round all the banks in Europe for an indefinite period. And safer too."

"I'm so glad you agree," Smith smiled. "So all you must do is go back to London and put this proposition to them. If they accept it, get me some kind of document—something really water-tight please—to legalise my recent money operation. Then bring it back to me here and I'll tell you how the job was done."

"I'll do that," Frobisher promised. "By the way—this is just an idle thought, thrown off in course of conversation—you do understand that the problem could be finally and completely solved by my putting a bullet through that ingenious brain of yours?"

Smith nodded his head in agreement. "We live in civilised times, but such a solution might just possibly be considered," he admitted.

"I did some thinking on this aspect of the project," and he made a motion of his head towards the doorway.

Frobisher looked in the direction of the nod. The blonde Swedish young person was standing almost directly behind him in the shadowy corner of the verandah. She was wearing a dressing gown now, and held in her hand, very competently, a small revolver.

"Sorry about that," Smith apologised. "In my business one must take every possible precaution."

Frobisher went back to London.

He was obliged to wait three days before every group of directors of every bank in Europe could be persuaded to agree that Smith's proposition was the one and only and completely inescapable solution.

Eventually, inevitably, they did agree, after which Frobisher flew back to Trondheim with a document which gave the guarantees Smith had asked for.

Smith received him with all his former hospitality, but while the visitor was absorbing iced lager, he examined the document very carefully. Satisfied with what it said, he gave it to the blonde girl, and spoke a few words to her in Swedish.

She went off immediately with the document, unfolded the rotors of the helicopter, got into the bubble-cabin and started the motor. After a warming-up period she took off expertly, in a slightly backwards and sideways direction over the roof of the house.

"She's my daughter," Smith explained. "Perhaps you hadn't understood that?"

"Well—" Frobisher swallowed. "I didn't think—I supposed—"

"Oh! Come now! I come of a long line of entirely respectable burglars. None of that sort of funny business in my family. At least," he sipped his drink and looked reflective, "not when we're working on a job."

Frobisher suspected that he would never have been presented with this piece of information had the bargain not been made. He wondered whether even now he was getting the truth.

"Beg pardon, I'm sure," he apologised. "Now, can we discuss arrangements for handing over the explanatory details of your recent highly successful—job?"

"Nothing need be complicated about the arrangements," Smith assured him. "I'll tell you now if you like, and you can tell it to the banks. You can broadcast it to the whole wide world for all I care."

"No formulae; no mathematics, no block diagrams?" Frobisher queried surprised.

"Nothing like that. Listen! When you go into the cashier-cubicle of a bank, the scanner above the counter of the cubicle wakes up. You know that much, I suppose? You put your cheque on the rubber pad so it's within the scanner's field of view, then a series of things happen which you as a customer don't know about.

"A light clicks on, the scanner reads off your name on the cheque. It activates the nucleus of the central computer which holds the record of your balance. The central computer verifies that the amount you're trying to draw does not exceed

your balance in hand. If your balance is okay the main computer sends an all-clear signal to the printer-circuits of the bank where you're making the withdrawal. Remember the printer is in the local bank somewhere beneath your feet. Finally the printer machinery runs off the notes required and slings them through a chute into your hands."

"This is entirely as per text-book," Frobisher pointed out, "and I can see no defect in the system."

"You will presently. But let me emphasise the sequence of events. Scanner reads name. Sends name-signal to central computer. Central computer verifies balance. Central computer gives all-clear signal to printer. Scanner communicates amount to printer-circuits. Printer prints cash."

"Exactly," Frobisher agreed, with some impatience.

"You don't see a crack in the system yet? Let me put it this way. Doesn't it strike you that the sequence is exactly as if two separate persons were handling the cheque? The first verifies the account and says, okay to the second. The second wakes up when he hears the word okay, looks at the amount of the cheque, and pays it."

"I suppose so," Frobisher agreed. "But what—" He stopped there. He was after all a very astute fellow, and he was beginning to get the glimmering of a clue.

"Suppose," Smith continued, "suppose the first man reads one hundred and forty five pounds on the cheque and says okay to that. The second man hears the word okay, looks at the cheque, reads one hundred and forty five *thousand* pounds, and pays it without batting an eyelash. After all, why shouldn't he? These two men, of course, never make arithmetical errors, but haven't enough interest in humanity to wonder how a man like me could have such a large sum of money."

"I get your analogy between the two cashiers and the two parts of the computer system," Frobisher admitted. "I even get a sort of a notion that the job must have been done by switching cheques. But this is impossible, for the switch would have to be done at precisely the right instant, and in a millisecond of time, between the scanner's first look at the cheque, and its second."

"Good for you," Smith approved. "As a matter of fact I built a dummy set-up, an exact replica of the bank circuits, and practiced the sleight-of-hand every day for more than a year," he beamed with a craftsman's honest pride. "Few people could achieve such split-second timing even after that

much practice, but my family has always been specially talented. By the way I didn't switch a whole cheque. I just flicked a slip of paper so that it covered the amount on the original cheque. This bit of paper had the larger amount written on it. Simple eh?"

"Yes," Frobisher admitted. "Provided you have the patience and the skill. But I musn't allow you to forget that your contract includes an undertaking to tell us how to stop up this hair-crack in Europe's banking structure."

"That's simple too. The printer circuitry should be altered so that it gets its information about the amount required from the main computer. It should not be required that the scanner takes a second glance at the cheque."

"Just a little circuit-alteration is all that's required."

"That's all. Then your money will be as safe as you could wish," Smith assured him. "For the time being at least."

"What d' you mean, for the time being at least?"

"In the long run someone like me will find a way to bust the new set-up," Smith promised him. "Perhaps not me. I've got enough to last me the rest of my life. But perhaps my daughter will. The talent runs in the family, you know."

Alan Barclay

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In this story Mr. Ballard takes the theme that Man has tampered with the elements and, in consequence, Earth is a dying world. But not quite dead—life still survives although humanity is emigrating to the planets.

DEEP END

by J. G. BALLARD

They always slept during the day. By dawn the last of the townfolk had gone indoors and the houses would be silent, heat curtains locked across the windows, as the sun rose over the deliquescent salt banks, filling the streets with opaque fire. Most of them were old people and fell asleep quickly in their darkened chalets, but Granger, with his restless mind and his one lung, often lay awake through the afternoons, while the metal outer walls of the cabin creaked and hummed, trying pointlessly to read through the old log books Holliday had salvaged for him from the crashed space platforms.

By six o'clock the thermal fronts would begin to recede southwards across the kelp flats, and one by one the air-conditioners in the bedrooms switched themselves off. While the town slowly came to life, its windows opening to the cool dusk air, Granger strode down to breakfast at the Neptune Bar, gallantly doffing his sunglasses to left and right at the elderly couples settling themselves out on their porches, staring at each other across the shadow-filled streets.

Five miles to the north, in the empty hotel at Idle End, Holliday usually rested quietly for another hour, and listened

to the coral towers, gleaming in the distance like white pagodas, sing and whistle as the temperature gradients cut through them. Twenty miles away he could see the symmetrical peak of Hamilton, nearest of the Bermuda Islands, rising off the dry ocean floor like a flat-topped mountain, the narrow ring of white beach still visible in the sunset, a scum-line left by the sinking ocean.

That evening he felt even more reluctant than usual to drive down into the town. Not only would Granger be in his private booth at the Neptune, dispensing the same mixture of humour and homily—he was virtually the only person Holliday could talk to, and inevitably he had come to resent his dependence on the older man—but Holliday would have his final interview with the migration officer and make the decision which would determine his entire future.

In a sense the decision had already been made, as Bullen, the migration officer, realised on his trip a month earlier. He did not bother to press Holliday, who had no special skills to offer, no qualities of character or leadership which would be of use on the new worlds. However, Bullen pointed out one small but relevant fact, which Holliday duly noted and thought over in the intervening month.

“Remember, Holliday,” he warned him at the end of the interview in the requisitioned office at the rear of the sheriff’s cabin, “the average age of the settlement is over sixty. In ten years’ time you and Granger may well be the only two left here, and if that lung of his goes you’ll be on your own.”

He paused to let this prospect sink in, then added quietly: “All the kids are leaving on the next trip—the Merryweathers’ two boys, Tom Juranda (*that lout, good riddance*, Holliday thought to himself, *look out Mars*)—do you realise you’ll literally be the only one here under the age of fifty?”

“Katy Summers is staying,” Holliday pointed out quickly, the sudden vision of a white organdy dress and long straw hair giving him courage.

The migration officer had glanced at his application list and nodded grudgingly. “Yes, but she’s just looking after her grandmother. As soon as the old girl dies Katy will be off like a flash. After all, there’s nothing to keep her here, is there?”

“No,” Holliday had agreed automatically.

There wasn't now. For a long while he mistakenly believed there was. Katy was his own age, twenty-two, the only person, apart from Granger, who seemed to understand his determination to stay behind and keep watch over a forgotten Earth. But the grandmother died three days after the migration officer left, and the next day Katy had begun to pack. In some insane way Holliday had assumed that she would stay behind, and what worried him was that all his assumptions about himself might be based on equally false premises.

Climbing off the hammock, he went on to the terrace and looked out at the phosphorescent glitter of the trace minerals in the salt banks stretching away from the hotel. His quarters were in the pent-house suite on the tenth floor, the only heat-sealed unit in the building, but its steady settlement into the ocean bed had opened wide cracks in the load walls which would soon reach up to the roof. The ground floor had already disappeared. By the time the next floor went—six months at the outside—he would have been forced to leave the old pleasure resort and return to the town. Inevitably, that would mean sharing a chalet with Granger.

A mile away, an engine droned. Through the dusk Holliday saw the migration officer's helicopter whirling along towards the hotel, the only local landmark, then veer off once Bullen identified the town and brake slowly towards the landing strip.

Eight o'clock, Holliday noted. His interview was at 8.30 the next morning. Bullen would rest the night with the Sheriff, carry out his other duties as graves commissioner and justice of the peace, and then set off after seeing Holliday on the next leg of his journey. For twelve hours Holliday was free, still able to make absolute decisions (or, more accurately, not to make them) but after that he would have committed himself. This was the migration officer's last trip, his final circuit from the deserted cities near St. Helena up through the Azores and Bermudas round to the main Atlantic ferry site at the Canaries. Only two of the big launching platforms were still in navigable orbit—hundreds of others were continuously falling out of the sky—and once they came down Earth was, to all intents, abandoned. From then on the only people likely to be picked up would be a few military communications personnel.

Twice on his way into the town Holliday had to lower the salt-plough fastened to the front bumper of the jeep and ram back the drifts which had melted across the wire roadway

during the afternoon. Mutating kelp, their gene-shifts accelerated by the radio-phosphors, reared up into the air on either side of the road like enormous cacti, turning the dark salt-banks into a white lunar garden. But this evidence of the encroaching wilderness only served to strengthen Holliday's need to stay behind on Earth. Most of the nights, when he wasn't arguing with Granger at the Neptune, trying to explain his philosophy to him, he would drive around the ocean floor, climbing over the crashed launching platforms, or wander with Katy Summers through the kelp forests. Sometimes he would persuade Granger to come with them, hoping that the older man's expertise—he had originally been a marine biologist—would help to sharpen his own awareness of the bathypelagic flora, but the original sea bed was buried under the endless salt hills and they might as well have been driving about the Sahara.

As he entered the Neptune—a low cream and chromium saloon which abutted the landing strip and had formerly served as a passenger lounge when thousands of migrants from the Southern Hemisphere were being shipped up to the Canaries—Granger called out to him and rattled his cane against the window, pointing to the dark outline of the migration officer's helicopter parked on the apron fifty yards away.

"I know," Holliday said in a bored voice as he went over with his drink. "Relax, I saw him coming."

Granger grinned at him. Holliday, with his intent serious face under an unruly thatch of blonde hair, and his absolute sense of personal responsibility, always amused him.

"*You* relax," Granger said, adjusting the shoulder pad under his Hawaiian shirt which disguised his sunken lung. (He had lost it skin-diving thirty years earlier). "*I'm* not going to fly to Mars next week."

Holliday stared sombrely into his glass. "I'm not either." He looked up at Granger's wry saturnine face, then added sardonically. "Or didn't you know?"

Granger roared, tapping the window with his cane as if to dismiss the helicopter. "Seriously, you're not going? You've made up your mind?"

"Wrong. And right. I haven't made up my mind yet—but at the same time I'm not going. You appreciate the distinction?"

"Perfectly, Dr. Schopenhauer." Granger began to grin again. He pushed away his glass. "You know, Holliday,

your whole trouble is that you take yourself too seriously. You don't realise how ludicrous you are."

"Ludicrous? Why?" Holliday asked guardedly.

"What does it matter whether you've made up your mind or not? The only thing that counts now is to get together enough courage to head straight for the Canaries and take off into the wide blue yonder. For heaven's sake, what are you staying for? Earth is dead and buried. Past, present and future no longer exist here. Don't you feel any responsibility to your own biological destiny?"

"Spare me that." Holliday pulled a ration card from his shirt pocket, passed it across to Granger, who was responsible for the stores allocations. "I need a new pump on the lounge refrigerator. 30-watt Frigidaire. Any left?"

Granger groaned, took the card with a snort of exasperation. "Good God, man, you're just a Robinson Crusoe in reverse, tinkering about with all these bits of old junk, trying to fit them together. You're the last man on the beach who decides to stay behind after everyone else has left. Maybe you are a poet and dreamer, but don't you realise that those two species are extinct now?"

Holliday stared out at the helicopter on the apron, at the lights of the settlement reflected against the salt hills that encircled the town. Each day they moved in a little further, already it was difficult to get together a weekly squad to push them back. In ten years' time his position might well be that of a Crusoe. Luckily the big water and kerosene tanks—giant cylinders, the size of gasometers—held enough for fifty years. Without them, of course, he would have had no choice.

"Let's give me a rest," he said to Granger. "You're merely trying to find in me a justification for your own enforced stay. Perhaps I am extinct, but I'd rather cling to life here than vanish completely. Anyway, I have a hunch that one day they'll be coming back. Someone's got to stay behind and keep alive a sense of what life here has meant. This isn't an old husk we can throw away when we've finished with it. We were born here. It's the only place we really remember."

Granger nodded slowly. He was about to speak when a brilliant white arc crossed the darkened window, then soared out of sight, its point of impact with the ground lost behind one of the storage tanks.

Holliday stood up and craned out of the window.

"Must be a launching platform. Looked like a big one, probably one of the Russians'." A long rolling crump reverberated through the night air, echoing away among the coral towers. Flashes of light flared up briefly. There was a series of smaller explosions, and then a wide diffuse pall of steam fanned out across the north-west.

"Lake Atlantic," Granger commented. "Let's drive out there and have a look. It may have uncovered something interesting."

Half an hour later, a set of Granger's old sample beakers, slides and mounting equipment in the back seat, they set off in the jeep towards the southern tip of Lake Atlantic ten miles away.

It was here that Holliday discovered the fish.

Lake Atlantic, a narrow ribbon of stagnant brine ten miles in length by a mile wide, to the north of the Bermuda Islands, was all that remained of the former Atlantic Ocean, and was, in fact, the sole remnant of the oceans which had once covered two-thirds of the Earth's surface. The frantic mining of the oceans in the previous century to provide oxygen for the atmospheres of the new planets had made their decline swift and irreversible, and with their death had come climatic and other geophysical changes which ensured the extinction of Earth itself. As the oxygen extracted electrolytically from sea-water was compressed and shipped away, the hydrogen released was discharged into the atmosphere. Eventually only a narrow layer of denser, oxygen-containing air was left, little more than a mile in depth, and those people remaining on Earth were forced to retreat into the ocean beds, abandoning the poisoned continental tables.

At the hotel at Idle End, Holliday spent uncounted hours going through the library he had accumulated of magazines and books about the cities of the old Earth, and Granger often described to him his own youth when the seas had been half-full and he had worked as a marine biologist at the University of Miami, a fabulous laboratory unfolding itself for him on the lengthening beaches.

"The seas are our corporate memory," he often said to Holliday. "In draining them we deliberately obliterated our own pasts, to a large extent our own self-identities. That's another reason why you should leave. Without the sea, life is

unsupportable. We become nothing more than the ghosts of memories, blind and homeless, flitting through the dry chambers of a gutted skull."

They reached the Lake within half an hour, worked their way through the swamps which formed its banks. In the dim light the grey salt dunes ran on for miles, their hollows cracked into hexagonal plates, a dense cloud of vapour obscuring the surface of the water. They parked on a low promontory by the edge of the lake and looked up at the great circular shell of the launching platform. This was one of the larger vehicles, almost three hundred yards in diameter, lying upside down in the shallow water, its hull dented and burnt, riven by huge punctures where the power plants had torn themselves loose on impact and exploded off across the lake. A quarter of a mile away, hidden by the blur, they could just see a cluster of rotors pointing up into the sky.

Walking along the bank, the main body of the lake on their right, they moved nearer the platform, tracing out its rivetted CCCP markings along the rim. The giant vehicle had cut enormous grooves through the nexus of pools just beyond the tip of the lake, and Granger waded through the warm water, searching for specimens. Here and there were small anemones and starfish, stunted bodies twisted by cancers. Web-like algae draped themselves over his rubber boots, their nuclei beading like jewels in the phosphorescent light. They paused by one of the largest pools, a circular basin 300 feet across, draining slowly as the water poured out through a breach in its side. Granger moved carefully down the deepening bank, forking specimens into the rack of beakers, while Holliday stood on the narrow causeway between the pool and the lake, looking up at the dark overhang of the space platform as it loomed into the darkness above him like the stern of a ship.

He was examining the shattered air-lock of one of the crew domes when he saw something suddenly move across the surface of the deck. For a moment he imagined that he had seen a passenger who had somehow survived the vehicle's crash, then realised that it was merely the reflection in the aluminised skin of a ripple in the pool behind him.

He turned around to see Granger, ten feet below him, up to his knees in the water, staring out carefully across the pool.

"Did you throw something?" Granger asked quietly.

Holliday shook his head. "No." Without thinking, he added: "Must have been a fish jumping."

"Fish? There isn't a single fish alive on the entire planet. The whole zoological class died out ten years ago. Funny, though."

Just then the fish jumped again.

For a few moments, standing motionless in the half-light, they watched it together, as its slim silver body leapt frantically out of the tepid shallow water, its short glistening arcs carrying it to and fro across the pool.

"Dog-fish," Granger muttered. "Shark family. Highly adaptable—need to be, to have survived here. Damn it, it may well be the only fish still living."

Holliday moved down the bank, his feet sinking in the oozing mud. "Isn't the water too salty?"

Granger bent down and scooped up some of the water, sipped it tentatively. "Saline, but comparatively dilute." He glanced over his shoulder at the lake. "Perhaps there's continuous evaporation off the lake surface and local condensation here. A freak distillation couple." He slapped Holliday on the shoulder. "Holliday, this should be interesting."

The dog-fish was leaping frantically towards them, its two-foot body twisting and flicking. Low mud banks were emerging all over the surface of the pool; in only a few places towards the centre was the water more than a foot deep.

Holliday pointed to the breach in the bank fifty yards away, gestured Granger after him and begun to run towards it.

Five minutes later they had effectively dammed up the breach, then Holliday returned for the jeep, drove it carefully through the winding saddles between the pools. He lowered the ramp and began to force the sides of the fish-pool in towards each other. After two or three hours he had narrowed the diameter from a hundred yards to under sixty, and the depth of the water had increased to over two feet. The dog-fish had ceased to jump and swam smoothly just below the surface, snapping at the countless small plants which had been tumbled into the water by the jeep's ramp. Its slim white body seemed white and unmarked, the small fins trim and powerful.

Granger sat on the bonnet of the jeep, his back against the windshield, watching Holliday with admiration.

"You obviously have hidden reserves," he said ungrudgingly. "I didn't think you had it in you."

Holliday washed his hands in the water, then stepped over the churned mud which formed the boundary of the pool. A few feet behind him the dog-fish veered and lunged.

"I want to keep it alive," Holliday said matter-of-factly. "Don't you see, Granger, the fish stayed behind when the first amphibians emerged from the seas two hundred million years ago, just as you and I, in turn, are staying behind now. In a sense all fish are images of ourselves seen in the sea's mirror."

He slumped down on the running board. His clothes were soaked and streaked with salt, and he gasped at the damp air. To the east, just above the long bulk of the Florida coastline, rising from the ocean floor like an enormous aircraft carrier, were the first dawn thermal fronts. "Will it be all right to leave it until this evening?"

Granger climbed into the driving seat. "Don't worry. Come on, you need a rest." He pointed up at the overhanging rim of the launching platform. "That should shade it for a few hours, help to keep the temperature down."

As they neared the town Granger slowed to wave to the old people retreating from their porches, fixing the shutters on the steel cabins.

"What about your interview with Bullen?" he asked Holliday soberly. "He'll be waiting for you."

"Leave here? After last night? It's out of the question."

Granger shook his head as he parked the car outside the Neptune. "Aren't you rather over-estimating the importance of one dog-fish? There were millions of them once, the vermin of the sea."

"You're missing the point," Holliday said, sinking back into the seat, trying to wipe the salt out of his eyes. "That fish means that there's still something to be done here. Earth isn't dead and exhausted after all. We can breed new forms of life, a completely new biological kingdom."

Eyes fixed on this private vision, Holliday sat holding the steering wheel while Granger went into the bar to collect a crate of beer. On his return the migration officer was with him.

Bullen put a foot on the running board, looked into the car. "Well, how about it, Holliday? I'd like to make an early start. If you're not interested I'll be off. There's a rich new

life out there, first step to the stars. Tom Juranda and the Merryweather boys are leaving next week. Do you want to be with them?"

"Sorry," Holliday said curtly. He pulled the crate of beer into the car and let out the clutch, gunned the jeep away down the empty street in a roar of dust.

Half an hour later, as he stepped out on to the terrace at Idle End, cool and refreshed after his shower, he watched the helicopter roar overhead, its black propeller scudding, then disappear over the kelp flats towards the hull of the wrecked space platform.

"Come on, let's go! What's the matter?"

"Hold it," Granger said. "You're getting over-eager. Don't interfere too much, you'll kill the damn thing with kindness. What have you got there?" He pointed to the can Holliday had placed in the dashboard compartment.

"Breadcrumbs."

Granger sighed, then gently closed the door. "I'm impressed. I really am. I wish you'd look after me this way. I'm gasping for air too."

They were five miles from the lake when Holliday leaned forward over the wheel and pointed to the crisp tyre-prints in the soft salt flowing over the road ahead.

"Someone's there already."

Granger shrugged. "What of it? They've probably gone to look at the platform." He chuckled quietly. "Don't you want to share the New Eden with anyone else? Or just you alone, and a consultant biologist?"

Holliday laughed. "Those platforms annoy me, the way they're hurled down as if Earth were a garbage dump. Still, if it wasn't for this one I wouldn't have found the fish."

They reached the lake and made their way towards the pool, the erratic track of the car ahead winding in and out of the pools. Two hundred yards from the platform it had been parked, blocking the route for Holliday and Granger, its passengers having gone ahead on foot.

"That's the Merryweathers' car," Holliday said as they walked around the big stripped-down Buick, slashed with yellow paint and fitted with sirens and pennants. "The two boys must have come out here."

Granger pointed. "One of them's up on the platform."

The younger brother had scaled on to the rim, was shouting down like an umpire at the antics of two other boys, one his brother, the other Tom Juranda, a tall broad-shouldered youth in a space cadet's jerkin. They were standing at the edge of the fish-pool, stones and salt blocks in their hands, hurling them into the pool.

Leaving Granger, Holliday sprinted on ahead, shouting at the top of his voice. Too preoccupied to hear him, the boys continued to throw their missiles into the pool, while the younger Merryweather egged them on from the platform above. Just before Holliday reached them Tom Juranda ran a few yards along the bank and began to kick the mud-wall into the air, then resumed his target throwing.

"Juranda! Get away from there!" Holliday bellowed. "Put those stones down!"

He reached Juranda as the youth was about to hurl a brick-sized lump of salt into the pool, seized him by the shoulder and flung him round, knocking the salt out of his hand into a shower of damp crystals, then lunged at the elder Merryweather boy, kicking him away.

The pool had been drained. A deep breach had been cut through the bank and the water had poured out into the surrounding gulleys and pools. Down in the centre of the basin, in a litter of stones and spattered salt, was the crushed but still wriggling body of the dog-fish, twisting itself helplessly in the bare inch of water that remained. Dark red blood poured from wounds in its body, staining the salt.

Holliday hurled himself at Juranda, shook the youth savagely by the shoulders.

"Juranda! Do you realise what you've done, you—" Exhausted, Holliday released him and staggered down into the centre of the pool, kicked away the stones and stood looking at the fish twitching spasmodically at his feet.

"Sorry, Holliday," the older Merryweather boy said tentatively behind him. "We didn't know it was your fish."

Holliday waved him away, then let his arms fall limply to his sides. He felt numbed and baffled, unable to resolve his anger and frustration.

Tom Juranda suddenly began to laugh, and shouted something derisively. Their tension broken, the boys turned and ran off together across the dunes towards their car, yelling and playing catch with each other, mimicing Holliday's outrage.

Granger let them go by, then walked across to the pool, wincing when he saw the empty basin.

"Holliday," he called. "Come on, man."

Holliday shook his head, his eyes staring at the beaten body of the fish.

Granger stepped down the bank to him. Sirens hooted in the distance as the Buick roared off. "Those damn children." He took Holliday gently by the arm. "I'm sorry," he said quietly. "But it's not the end of the world."

Bending down, Holliday reached towards the fish, lying still now, the mud around it slick with blood. His hands hesitated, then retreated.

"Nothing we can do, is there?" he said impersonally.

Granger examined the fish. Apart from the large wound in its side and the flattened skull the skin was intact. "Why not have it stuffed?" he suggested seriously.

Holliday stared at him incredulously, his face contorting. For a moment he said nothing. Then, almost berserk, he shouted: "Have it stuffed? Are you crazy? Do you think I want to make a dummy of myself, fill my own head with straw?"

Turning on his heel, he shouldered past Granger and swung himself roughly out of the pool.

J. G. Ballard

THE LITERARY LINE-UP

John Brunner's long-scheduled serial "Put Down This Earth" commences next month, delayed solely through circumstances, but, we trust well worth the wait. Basically it deals with a problem already being felt today—that of increasing population and the constant effort to feed everyone. Extrapolating into the future a little way, author Brunner has the world run by the United Nations after world governments have broken down; a mysterious drug-wave sweeps the world called "happy dreams," affecting mainly the young, and the Narcotics Division of UN set out to try and trace the source.

New writers are prominent among the short story contributors—Robert Hoskins, Kathleen James, and Philip Heath—plus our regular record story teller E. C. Tubb with a crisp story entitled "Jackpot."



Venus Plus X

Dear J.C.,

Have just finished reading Part 3 of *Venus Plus X*. Funny thing—I've never really liked Sturgeon before but this is just about the most magnificent story I have ever read. It's as if, whereas many of us continue to 'grow' until, say, 40, and some of us until 50 or longer, Sturgeon has managed to grow to be 150, keeping the vitality of 40.

Not to say that I have had the *same* ideas, yet the *basics* of his thinking and mine have so much in common that I feel thoroughly at home with this story. And there are some parallels in detail—male attitude to women, these (except for actual wording) are pretty much my own problems. The conclusion cannot be avoided that there is something most seriously amiss with our so-called civilisation and culture. Perhaps these are names for a vacuum.

Anyway, I didn't set out to analyse our civilisation or lack of it but to express appreciation for a really great story.

F. Leslie,
Bradford, Yorks.

Dear John,

Surely *Venus Plus X* must be the worst serial you have ever published—even worse than *Time Out Of Joint*—and that was bad enough! For goodness' sake get back to publishing stories, not tracts!

John Hynam,
Peterborough.

Dear Ed,

I think I really would have flipped if I'd had to read this as a serial—to be interrupted in following up writing of this calibre is liable to have the same effect as some character blowing a whistle in your ear four times at vital moments of an affair. If you are going to engage your readers spiritually, emotionally and intellectually and then just leave them hanging it is asking for trouble. *New Worlds* readers will be

known for their neurotic, introspective look and twitching fingers. (*But lots of readers wait until they have all the parts before reading a serial as a complete novel.—Ed.*) As it was, to be able to get the paperback on the same day as Part One (*that will not happen again—Ed.*) worked out fine.

Sturgeon is a remarkable, disquieting writer, and I would like to go into a quiet corner and talk things over with him for a couple of months. He's seen so much others have missed—but, oh, the vast uncharted areas he has ignored!

Kevin Smith,
London.

General

Dear John,

I have one very important remark to make that concerns your magazines and myself in particular. I have become very attached to both *New Worlds* and *Science Fantasy* over the past years, and what it finally boils down to is that your magazines, in both editorial matter and in story 'blurbs' are continually exploiting science fiction as a *medium*, not wandering off in other tracks. I think it is this quality that has interested me as a budding writer and has probably influenced others. In a world of s-f magazines constantly shrugging away from the term, you still treat it as a genre without dragging in *science* for science's sake. And that, I think, is the key to the freshness in your writers and to the amount of new writers you are introducing to the world.

Keep up the good work.

Lee Harding,
Victoria Australia.

Dear Mr. Carnell,

I am sure that you don't get very many letters from this side of the Atlantic praising your magazines. You almost didn't get this one, as I am notoriously slack about writing letters.

I have just re-read "When In Doubt," (No. 101) and "Creatures, Incorporated," (No. 95). Will there be any more in this series? They are fabulous! I have also read some of the "Sector General" stories—when does the next one come up? "The Edge Of Oblivion" is another story that cried out for a sequel.

My one gripe about your magazine is that you print or reprint too many stories by American authors. I read your

magazine to get the British stories, not reprints like that crummy serial *Venus Plus X*, even though Sturgeon is a good author, this story does no good to your reputation as an excellent s-f magazine. I can say this even though at the present time I subscribe to all the U.S. magazines.

Do you think that some of your readers would like to exchange British for U.S. s-f magazines?

On the whole, *New Worlds* provides a refreshing change to me. The stories seem different, and there is much less space opera present. There are novel ideas, well-presented, and at least when you print a novelette it is more than 15 pages long. Just for curiosity what are your average lengths for shorts, novelettes, novels, etc? Even your reader column seems more sophisticated than the ones in the U.S. magazines.

As an American I feel that I am sort of out of place writing to you, but I am happy to include your magazine among the 53 publications that I read regularly (including *Punch* and the *Manchester Guardian*). I am at present a Physics student at Illinois Institute of Technology, with a full-time job in an electronics lab, and I find that s-f tends to relax me and get my mind off the reams of technical journals and textbooks I have to read. Science fiction is needed in this world, whether people know this or not. I hope you have another 100 issues as good as the first 100 were.

Mark Irwin,
Highland Park, Illinois, USA.

(*Short stories are 3,000 to 10,000 words ; novelettes up to 20,000 ; short novels up to 35,000 ; novels, 3-parts 54,000, 4-parts 70,000.—Ed*).

Dear Mr. Carnell,

I have been an avid reader of your "Nova" publications for two years now and have found that the general standard of the stories published is far higher than that of some of your American counterparts.

However, I am afraid that some of the stories that you publish are, to use a well known Australian phrase, flaming awful. I refer to the "moderan" series which strikes me as having been written by a patient in an insane asylum. I would like to congratulate you on your last two serials *Time Out Of Joint* and *X for Exploitation* which are, in my opinion, two real masterpieces in science fiction.

I wonder if you know how long Larry Maddock has been writing, for in his "Creatures Incorporated" series, he shows an unusual ability (unusual in science fiction writers anyway) to blend into his stories a thread of humour which tends to brighten one up after having read endless stories by famous authors who do not appear to have any sense of humour at all.

I suppose it may seem a bit late in this letter to bring this up but I am one of the younger members of your Australian fans and one of the things that I have noticed is that you do not receive many letters from the younger readers or is it just that they don't bother to tell you that they are junior readers?

Howard Brown,
Queensland, Australia.

Dear Mr. Carnell,

One of the roots of the perennial "soul-searching" in s-f seems to be the good old 'how-much-science-should-we-put-into-science-fiction,' question. I have always laboured under the delusion that science was never a catalogue of facts and theories, as most of the contributors in your discussions seem to think, but the process by which these facts were discovered and tested and the theories developed from them. The basis of this process, as I understand it, is contained in that rather amorphous expression "the scientific method." And one of the most important aspects of that method is its various tests for logical consistency.

Following this viewpoint to its bitter end, we conclude that science is basically nothing more than the discovery and development of various relationships between different aspects of reality. The word fiction, on the other hand, carries with it a basic connotation of unreality. Combining the two results in a situation in which we are applying the scientific method (whatever that is) to situations which are at least partly unreal. At the same time, fiction in its normal sense is taken to preclude the impossible (astronomically improbable would be a better expression). Assuming all this, we find that science fiction is a field of fiction in which all happenings are consistent both within themselves and with the already accepted factual relationships of reality.

If we define things in this way, we find that the problem we thought we were discussing isn't what we were talking about

at all. The presence or absence of what are generally thought of as scientific facts doesn't come into it. As long as a story is self-consistent—and all good fiction is—and does not deal with the factually (as opposed to theoretically) impossible, it is good s-f. Or, if you want to put it another way, you don't *have* to bring scientific facts or theories into a story as long as you do not ignore or misquote in any way.

On the other hand, if you write a good story doing the latter, what you have is science fantasy, where anything can happen (the fantasy part) as long as it is consistent with the other events in the story (the definition of science).

So if you get sent a good story, buy it whether it is "scientific" or "unscientific" in the normal sense—the only difference it will make is which magazine you will publish it in. Just remember, however, to reject any internally inconsistent stories—after all, they are not 'science' anything.

Julian Reid,
Victoria, B.C., Canada.

Dear E.J.,

I have just read the paperback *Starship Troopers* and I just don't get it! Strictly in reverse, "What the hell has happened to Heinlein?"

Granted (a) the book is written right up to Heinlein's best style of writing; (b) his usual terrific attention to detail (i.e. such details as he wants to put over). Otherwise, I don't think I have *ever* read such monumental claptrap and drivel (sheer and unadulterated) from a previously assumed highly intelligent man.

What is it? Is it deliberate propaganda? Or improper-ganda? Or is the man really sold on these ideas? And who hypnotised the Committee that gave this drivel the prize "Best S-F Novel" of 1959? (*No committee but the individual votes of all the members of the 1960 World Convention.—Ed.*)

I list a few items. (1) This is supposed to be science fiction. *Fiction* it certainly is, but *science* it doesn't start to be! The essence of science is (partly) that it considers *all* the evidence. *This* thing takes one side of an argument, plugs it for all it is worth and *completely ignores* the great mass of opposing evidence. This is propaganda. It is also religion. But I have never yet found it established that either of these were science. The 'teaching sessions' and/or 'arguments' with friend Dubois and others are laughable where they are not pitiable. Notice how carefully Heinlein arranges that never once does a

pupil put up a question that would prick the smallest hole in his bubble. There is not one character in the whole book with the minimum requirement of the brains that God gave bastard geese in Ireland (filched) to point out the obvious—that children are *not*, repeat *not*, puppies, and that human beings are not dogs.

(2) Notice the parallel with religion. Rico joins up and is the lowest of the low, in the mob. His god is the corporal. A higher god (and the corporal's) is the sergeant. Dimmer, except to the sergeant whose god he is—is the Captain. In spite of all the yap about democracy, notice the fascist method of training—never a moment to think; men that get time to think start seeing through a few things. Notice also the god-like attributes of each god. Each is superhuman perfection in all things, but going up more so in rank.

Well, these are a few points. I've long called myself an iconoclast and it looks as if I am, but if this bilge is s-f then give me fantasy or just fiction.

F. Leslie,

Bradford, Yorks.

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